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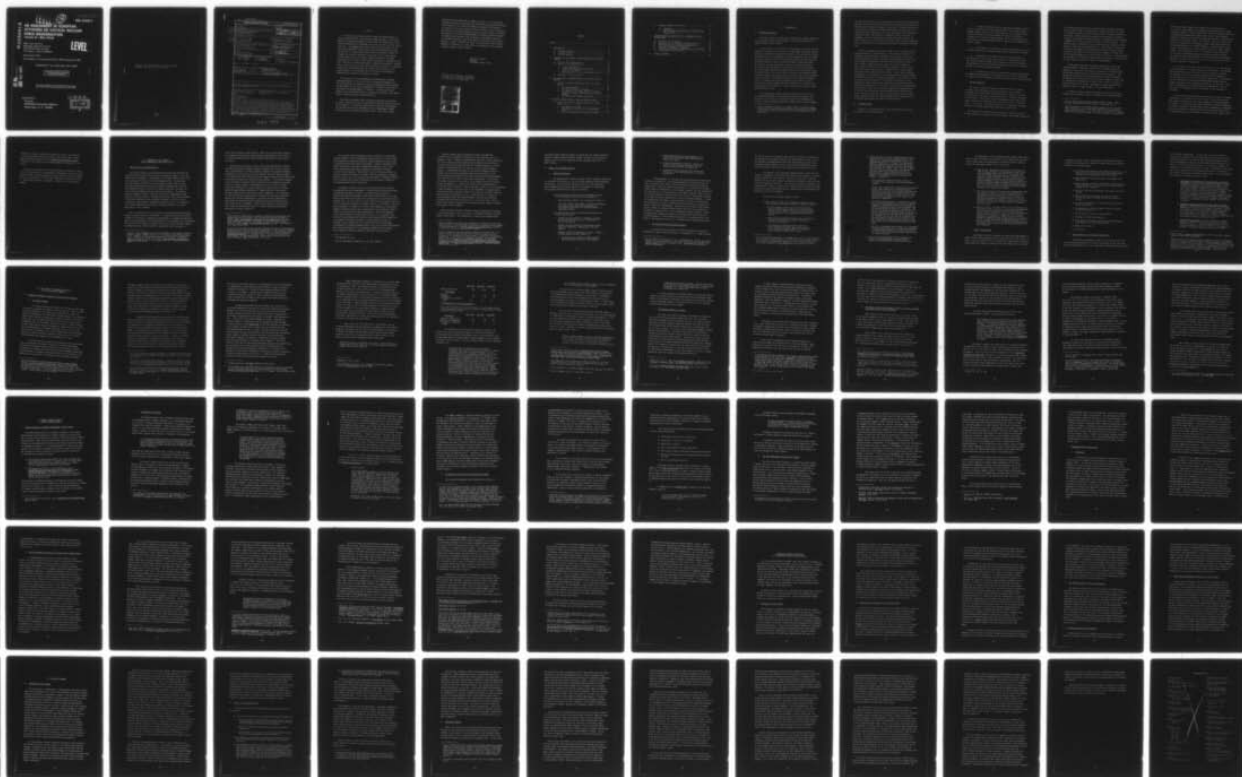
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Volume II - Main Study

SRI International
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1611 North Kent Street
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December 1977

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PREFACE

For twenty years, European opinion toward the modernization of NATO's tactical nuclear force has been rather ambivalent. On the one hand, West European governments have welcomed the introduction of new delivery systems such as Pershing, Lance, and the F-16 into NATO's force structure. Past public debates over tactical nuclear issues, on the other hand, especially those aroused by the "Carte Blanche" exercise, the proposal to implant atomic mines along the East-West frontier in Germany, the so-called Weizsacker study, and the 1973 press reports on "mini-nukes", have not created a helpful climate for thorough discussion of the utility of new nuclear technologies. Widespread fears that a conflict in Europe would result in population damage on a massive scale, in fact have in the past been an important obstacle to a balanced consideration by European political leaders and especially by the general public of the possible role of new nuclear technologies in enhancing both deterrence and defense in Europe.

The potential of new technologies for substantially reducing collateral damage in the event of war is now widely accepted in the United States, and the conviction that new technology may make possible the development of new--and the appropriate revision of old--tactical doctrines is spreading among U.S. analysts. It remains uncertain, however, how these possibilities are looked upon in Europe. This report seeks to analyze these and related questions.

The study was proposed under the general supervision of Richard B. Foster, Director of the SSC, and Harold Silverstein, Special Assistant to the Director. The Director played a particular role in analyzing the strategic and tactical problems presently confronting the NATO Alliance and in identifying solutions to them. The Project Leader

and author of the report was Dr. James E. Dornan, Jr. The following European consultants contributed both Input Papers analyzing key problems which emerged in the course of research, and specific contributions to sections of the report bearing on their particular area of expertise: Hans Ruhle of the Konrad Adenauer Institute, Federal Republic of Germany; Uwe Nerlich of the Stiftung Wissenschaft und Politik, Federal Republic of Germany; John Erickson of the University of Edinburgh; Colin Gray of the Hudson Institute; and S.W.B. Menaul of the Royal United Services Institute, London. General B.E. Spivy, U.S. Army (Ret), Major General Hamilton A. Twitchell, U.S. Army (Ret), John Scharfen, and Dr. Stephen P. Gibert served as review critics.

Richard B. Foster
Director
Strategic Studies Center

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I INTRODUCTION

A. Research Objectives

This report seeks to assess current attitudes in Europe, especially in West Germany and the United Kingdom, toward the modernization of NATO's tactical nuclear forces.

In recent years, a combination of technological and policy developments has reinforced the U.S. view of the importance of theater nuclear systems for deterrence and defense in Europe. The new family of nuclear weapons--those now in development and those planned for the near term--is characterized by a potential for added military efficiency and substantially lowered levels of collateral damage through high degrees of accuracy, reduced yields, and a variety of targeting effects.¹ Moreover, recent assessments of weapons effects and the development of new assessment methods have reduced some of the uncertainties associated with the use of tactical nuclear systems, and provided at least tentative answers to such questions as the extent and the effectiveness of various kinds of shielding techniques in protecting urban populations. The ongoing and proposed modernization of NATO's tactical nuclear forces should enhance both the credibility of deterrence and the capacity of the Alliance to contain a Warsaw Pact attack in Europe should deterrence fail.

U.S. policymakers, however, might be uncertain of the reaction of the European states to the proposed modernization program. Consultations at the official level--particularly with the Ministry of Defense in both the Federal Republic of Germany and the United Kingdom

¹ Enhanced radiation weapons, for example, might be utilized against troop concentrations, disabling personnel but causing little damage to buildings and other structures away from the immediate area of detonation.

and with high officials in the armed forces of FRG--have been encouraging. However, the potential reaction of other decisionmakers in Europe and of European public opinion in general is less clear. European opinion does not appear to be adequately informed concerning the possibilities for reduced collateral damage and the related advantages of the new nuclear systems; moreover, old patterns of thinking die hard, in Europe as elsewhere, and, as other studies have shown, European officials and public alike have not always been enthusiastic about proposals emanating from the United States for improvements in NATO's war-fighting capabilities.

Political considerations thus continue to be an important factor inhibiting NATO force modernization. In the absence of specific information concerning European attitudes on new nuclear systems and weapons-employment concepts, especially those promising reduced collateral damage, uncertainties will remain concerning how the deployment of these systems will affect political cohesion within the NATO Alliance. Without such information, moreover, it will be difficult to determine how an effort to address the collateral damage issue might affect European public opinion. Would a more widespread dissemination of information on the new systems be politically helpful in furthering plans for "population management," civil defense etc. in the event of war in Europe? Or would public discussion of such questions in Europe under current conditions evoke unwarranted fears and cause divisiveness in the Alliance? Such political considerations clearly must be taken into account in planning force modernization. It is with these concerns in mind that SSC/SRI has undertaken this effort, as part of both the Center's parallel study of the possible Soviet response to NATO force modernization and its ongoing research on European perceptions and views of defense matters.

B. Principal Tasks

As part of its investigation of these and related issues, the SSC undertook the following tasks:

1. A review of available data in completed and ongoing analyses on (a) the characteristics and capabilities of new tactical nuclear weapons systems, particularly the possibilities for collateral damage reduction inherent in the new systems, (b) the use of shielding techniques for reducing collateral damage, and (c) new techniques for assessing the collateral damage likely to result from the employment of nuclear weapons.

2. An assessment of attitudes in Europe toward existing tactical nuclear systems and the collateral damage levels associated with them.

3. An assessment of possible attitudes in Europe toward the modernization of the tactical nuclear force, and specifically toward the reduced collateral damage levels expected as a result of weapons modernization, the use of shielding techniques, and the use of improved methods for assessing collateral damage.

4. An analysis of the political implications and hazards involved in communicating information to the NATO allies of the U.S. concerning the reduced collateral damage associated with new U.S./NATO nuclear systems.

C. Research Approach

Any study of European attitudes on defense issues must attempt to analyze the considerable variety of opinions on the continent. Political views and positions on military matters interact, in Europe as elsewhere, in many ways: some individuals of a "liberal" political outlook assume a "soft" line on military questions, while others with similar views take a "hard" position. The same is true of "conservatives." If the state of European opinion is to be adequately assessed, therefore, a thorough canvass of opinion must be undertaken.

The evaluation of European views on military issues is, however a far more difficult task than in the United States. The defense communities

in the NATO-European states are relatively small, and their interface with the public tends in the main not to involve discussion of issues of strategic substance (as Colin Gray has noted in a paper prepared for this study, public debates often develop on such matters as dockyard closings, the duration of military service for conscripts, and the morale of members of the armed services, but rarely on NATO strategy). This tendency towards "narrowness" in the public debate on national security issues in Europe has been reinforced by the unsatisfactory response of the public when complex issues have become matters of popular concern. As observed in Chapter II of this study, for example, the rather hysterical media treatment of the "Carte Blanche" exercise in 1955 convinced the government of the FRG that future public discussions of defense issues by public officials should be confined to generalities.

By and large, moreover, the defense bureaucracies of the non-American members of NATO do not reveal their internal debates and squabbles to the public (one reason, of course, is that several NATO nations have Official Secret Acts which are taken seriously). Thus informed persons outside the official defense system--and therefore at liberty to air their views--tend to be few in number, and also tend to lack political leverage due to their limited access to centers of genuine influence over policy. Knowledge of complex defense issues among the public at large, moreover, is nearly nonexistent.

An additional factor complicates efforts to identify and assess European views on defense issues. Although there are obviously many

¹ Colin S. Gray, "Modernizing the Theater Nuclear Arsenal: NATO-European Perspectives," an input paper to this study, p. 8.

² "Carte Blanche" was a military exercise designed to test the operational implications of the 1954 NATO Council decision to employ tactical nuclear weapons at an early stage in the event of a massive Soviet ground assault in Europe. See the discussion below, pp 29ff.

officials in Bonn, London, and elsewhere who are interested in the military implications of new weapons technologies, debate on NATO strategy in Europe is suffused with subtle--and often dominant--political considerations bearing upon trans-Atlantic accord. Most Europeans continue to believe that the United States must retain a strong security connection with Western Europe. If the price to be paid for this connection is acquiescence in strategic concepts about which Europe has strong reservations--e.g. flexible response, or participation in arms control negotiations with a high potential for harm to NATO's defense effort, such as MBFR--then so be it. Therefore, if one enquires as to the views of European officials upon theater nuclear questions, one finds that American preferences and reasoning have had considerable influence on those views--or at least on the versions of those views which are made known to Americans.

In an attempt to obviate these difficulties, the SSC drew heavily on the knowledge of its senior analysts and consultants. SSC strategic analysts participated in the review of data, available in analyses now underway in the Defense Nuclear Agency (DNA) and elsewhere, on the characteristics of new tactical weapons systems and on the possibilities for substantially reducing collateral damage through improved weapons utilization, use of shielding techniques, and the like. This review, accomplished in accordance with the requirements of Task 1, constituted the foundation for the fulfillment of the remainder of the Tasks.

In addition, the Center relied substantially on a group of European consultants, all of whom are (or have been until recently) associated with research institutes in the United Kingdom or the Federal Republic of Germany. As a group the consultants represent a balanced combination of outlooks and views. Most have served their governments in responsible positions and have also worked with the SSC on previous projects; all are personally known to the Director, the Project Leader, and/or senior

members of the research team. The Center therefore had extensive access to European views on the questions examined. After the onset of the project, the Project Leader met with the European consultants participating in the effort, and with other European experts as well, for a thorough review of the project and its problems.¹ Suggestions emanating from these discussions helped shape the direction of subsequent research; it became clear, for example, that there is no recent and reliable public opinion polling data of any consequence on attitudes toward tactical nuclear systems, and that other means would have to be utilized to identify prevalent European views.² In addition, in consultation with DNA staff it had been determined before the project began that its primary focus should be the FRG, due to its central position in the NATO defense effort, with such additional attention to the United Kingdom and other nations as seemed appropriate. Input papers were thereupon commissioned from four consultants, each of whom addressed himself to the following central questions raised by the study:

1. What are the prevalent attitudes in Western Europe and particularly in the FRG toward:
 - a. the priorities to be assigned to deterrence and defense in NATO strategy, force posture design, etc.?
 - b. more specifically, the role of presently deployed tactical nuclear systems in deterrence and defense in Europe?
2. What is the state of European and especially FRG knowledge about new tactical nuclear systems:

¹ These meetings were held in London from 31 May to 4 June 1976 at SRI's United Kingdom office.

² The agreed-upon scope of the project did not permit the SSC to undertake its own polling. Given the state of public knowledge on the issues, such an effort would have been of doubtful value in any case.

- a. among political leaders and elected officials?
 - b. among the public?
3. What are present attitudes in Europe and especially in the FRG toward these new systems with respect to:
 - a. their role in deterrence and defense?
 - b. the manner in which they might be employed?
4. Are there significant differences among government officials, political figures, and the public in their attitudes toward the new nuclear weapons systems?
5. What are European (and especially FRG) views on the likely Soviet reaction to deployment of the new nuclear systems in the CENTAG area?
6. What could contribute to changes in European (and especially FRG) attitudes concerning the new systems:
 - a. more effective dissemination of information concerning the greater accuracy, reduced collateral damage, and improved command and control associated with the new systems?
 - b. changes in NATO doctrine for employment of such weapons should war occur?
 - c. more extensive civil defense and other preparations for population protection in the event of war?

In developing answers to these and related questions, several of the consultants drew upon studies previously undertaken on European attitudes by the research organizations with which they are associated.

As a further part of the effort involved in Tasks 2 and 3, official statements, government documents, speeches by important personalities, and position papers of political parties issued in Europe were analyzed, and articles in professional and military journals were reviewed. Press reports and commentary dealing with tactical nuclear war, weapons systems, old and new, and the collateral damage issue were also examined. Given the small size of the national security

community in Europe, particular attention was paid to the commentary of several influential military writers such as Theo Sommer of Die Zeit and Adelbert Weinstein of the Frankfurter Allgemeine Zeitung in the FRG. The results of this analysis appear in Chapters II, III, and IV.

Finally, on the basis of the data and analysis assembled in Tasks 2 and 3, various means for communicating information on the new tactical nuclear systems to the European nations were assessed, and the probable political consequences of so doing were analyzed, as specified in Task 4. This analysis appears in Chapter V. Chapter VI is the Executive Summary.

II STATEMENT OF THE PROBLEM: FORCE MODERNIZATION AND NATO'S FUTURE

A. The Need for Force Modernization

Few serious analysts of international relations would challenge the assertion that the North Atlantic Treaty Organization remains, as it has been since its formation, a cornerstone of the Western defense effort and thus of political stability in the contemporary world. Nevertheless, the NATO Alliance virtually from its inception has been beset by such profound disagreements among its most important member-states over the most appropriate means to fulfill its primary tasks that on several occasions serious commentators have predicted its demise.¹ The discord among its members, moreover, has been reflected in disagreements among students of Alliance policy. Although the political and military problems of NATO have generated a vast published literature, as well as a host of officially and privately commissioned studies, little or no consensus can be found among them on the nature of NATO's problems or on proper approaches to their solution.

This is particularly true of questions involving NATO nuclear strategy, military doctrine, and force deployments. In essential respects the history of NATO is the history of discussion, disagreement, and compromise among the Allies on such questions as the relationship of U.S. strategic force deployments and doctrine to the defense of Europe, the role of tactical nuclear weapons in Western defense, and the levels of conventional forces necessary to

¹ Typical of such judgments was the 1971 statement of the normally cautious Morton A. Kaplan: "NATO", he wrote, "is far gone on the road to extinction." "NATO is the International System of the 1970's," in Robert W. Gregg and Charles W. Kegley, Jr. (eds.), After Vietnam: The Future of American Foreign Policy, p. 158 (Garden City, N.Y.: Doubleday and Co., 1971).

deter and/or contain a Soviet attack.¹ While all of these issues continue to be debated, during recent years questions involving the role of tactical nuclear weapons have for several reasons moved again to the forefront of concern.

Doubts about the military utility of the early generation of theater and battlefield nuclear weapons deployed in Europe have of course existed since the mid-fifties. Military analysts normally have argued that NATO's conventional forces would--or should--"channel" the first echelon elements of the Warsaw Pact (WP) invading force into massed formations that would constitute lucrative targets for tactical nuclear systems. It is usually assumed in any case that the Soviets would be compelled to concentrate troop formations for a direct assault in the CENTAG area in such a way as to make them highly vulnerable to a nuclear attack, and that the use of tactical nuclear weapons against appropriate WP targets behind the lines could seriously disrupt second (and third) echelon formations. The combination of yield and accuracy associated with existing tactical nuclear systems, however, has led many commentators to conclude that their employment--particularly if delayed beyond the immediate onset of hostilities--would have little effect in stemming a serious Soviet advance, and would, moreover, result in unacceptable levels of civilian casualties and general destruction on Allied territory.²

¹ There exists no comprehensive treatment of NATO history which deals adequately with the last decade. For a useful brief survey see Edwin A. Fedder, NATO: The Dynamics of Alliance in the Postwar World (New York: Dodd, Mead, and Co., 1973). The classic on the early period remains Robert E. Osgood, NATO: The Entangling Alliance (Chicago: The University of Chicago Press, 1962).

² As one critic has argued, most presently deployed systems are "operationally speaking tactical only by courtesy of nomenclature." See Michael J. Brenner, "Tactical Nuclear Strategy and European Defense: A Critical Reappraisal," International Affairs, p. 2 (January 1975). See also the discussion in Lloyd Norman, "The Reluctant Dragon: NATO's Fears and the Need for New Nuclear Weapons," Army, February 1974, pp. 16-21.

The view that the WP would mass forces in advance of a mechanized assault, however, is now challenged by many analysts; at the very least the possibility of attack by parallel columns supported in depth across a relatively wide front cannot be dismissed. Evident difficulties with NATO's surveillance and target acquisition capabilities and C³ have also raised serious questions concerning the employment of NATO's tactical nuclear weapons. Thus, while it may not be quite accurate to assert, as have some critics, that NATO "has never developed a coherent doctrine for the use of its tactical nuclear weapons,"¹ widespread doubts exist concerning the utility of existing tactical nuclear systems for achieving desired military objectives.

In addition, little in the way of articulated military doctrine accompanied the initial deployment of tactical nuclear systems in Europe. The then-new systems were "sold" to the NATO Allies basically on grounds that they would compensate for Alliance deficiencies in the manpower balance with the WP, and in the process shore up deterrence, all at bearable cost. To that extent, at least, NATO's tactical nuclear force has from the beginning consisted of weapons in search of a doctrine. From the outset, moreover, as Chapter III of this study emphasizes, a good-sized segment of European opinion was concerned about the operational implications of tactical nuclear weapons deployments. While decisionmakers in all NATO countries were gratified by official U.S. assurances that tactical nuclear weapons would enable them to support NATO's objectives at a savings in manpower and money, the gratification of some was tempered by their awareness of the possibility that they had bought an opportunity to defend themselves only at the cost of their obliteration.² What later became known as the "collateral damage" issue in debates over strategy in Europe was therefore incipient from the outset.

¹ See Brenner, op. cit.

² See the discussion in Osgood, op. cit., pp. 118-126.

Moreover, doubts about the wisdom of nuclear war-fighting strategies for the defense of Europe grew on the continent with the passage of time.¹ Europeans developed their own basic concept concerning the role of tactical nuclear weapons in the Western security effort--a concept which stressed deterrence and the "linkage" between the forces in Europe, both conventional and nuclear, and U.S.-based strategic weapons. A substantial divergence of views thus developed within the Alliance on the military questions which bear most directly on its central purpose--a divergence which NATO's major doctrinal pronouncements such as MC-14/3² were able to treat only superficially. The doctrine of flexible response, in fact, which in its American version visualized primary dependence on a conventional defense and the postponement of a tactical nuclear response as long as possible, proved to be as unacceptable to most Europeans as had the policy of the mid-1950s; in European eyes, raising the nuclear threshold lowered the credibility of NATO's deterrent, and increased the possibility of war. Fears that the U.S. would use nuclear weapons rashly and indiscriminantly in Europe were replaced by doubts that they would be used at all. At the very least, serious doubts arose that the weapons would be employed quickly enough to contain successfully a Soviet assault.

NATO's military doctrine, therefore, largely imposed on the Alliance by the United States in any case, has not consistently enhanced political cohesion within NATO. The combination of doctrine and hardware which

¹ These strategies, of course, were extensively criticized in the United States as well. Henry Kissinger's advocacy of a tactical nuclear defense of Western Europe in his Nuclear Weapons and Foreign Policy, published in late 1956, became a focal point for critics.

² MC 14/3, adopted by the North Atlantic Council in December 1967, set forth a revised strategic concept for the Alliance based upon the principle of "a flexible and balanced range of responses, conventional and nuclear, to all levels of aggression or threats of aggression." Its formal title is A Report by the Military Committee on the Overall Strategic Concept for the Defense of the North Atlantic Treaty Organization Area. See NATO Facts and Figures (Brussels: NATO Information Service, 1971), p. 58.

constitutes NATO's military posture in Europe does not command universal political support among the Allies; indeed, the lack of such political support may be one of the important factors impinging negatively on NATO's future.

B. Nature of Force Modernization

1. General Reflections

The modernization of NATO's military force, therefore, especially its tactical nuclear force, is one of the most pressing tasks confronting the Alliance. In an extensive analysis of the U.S. force posture in Europe completed several years ago, the SSC defined the requirements of an adequate NATO military doctrine as follows:

- The force posture should reflect the defensive nature of the Alliance and to this end be designed to:
 - Deter military conflict; or, if deterrence fails, to
 - Limit the conflict and terminate it before escalation to general nuclear war, while providing for the security and survival of the NATO nations as independent states.
- To meet the basic aims of deterrence and defense, the force posture should:
 - Provide for the coupling of compatible strategic nuclear and theater forces in a continuity of force relationships.
 - Provide tactical nuclear and conventional forces which are compatible, complementary, and dual-capable.
 - Provide, within the continuity of force, a range of flexible defense options capable of:
 - carrying out the concept of forward defense while minimizing collateral civil damage;

- meeting aggression with direct defense at the level and in the manner deemed appropriate to defeat the attack;
- conducting deliberate, selective, timely, controlled tactical nuclear and theater nuclear first-use and escalation responses; and
- conducting limited strategic force attacks for the purpose of war termination short of general nuclear war.¹

The development of a doctrine and force posture which meets these criteria, in addition to its obvious implications for deterrence and defense in Europe, would enhance political cohesion within the Alliance in several ways. First, by explicitly providing for a continuity of military options from the conventional to the strategic nuclear, and thus specifically "re-coupling" the U.S.-based deterrent with NATO's theater forces, the doctrine would satisfy the Europeans that every effort is being made to exploit the residual deterrent capabilities of the U.S. strategic umbrella. Second, by stressing the objectives of forward defense and early war termination, the Allied desire to avoid a protracted military conflict on European soil would be explicitly acknowledged. Third, the role of tactical and theater nuclear systems in achieving forward defense and early war termination is stressed in a manner likely to elicit widespread European support. Fourth, flexibility and a degree of ambiguity in defining the precise nature of the NATO response to various Soviet initiatives are retained, which in the minds of many European as well as U.S. thinkers further enhances deterrence.

2. The Current NATO Modernization Program

In recent years the Alliance has moved substantially toward the achievement of many of these objectives. The modernization of NATO's ground,

¹ See R.B. Foster, H. Twitchell, et al., SSC-TN-2240-16, "Theater and General Purpose Force Posture Analysis," Vol. Two; NATO Europe (U), SRI/Strategic Studies Center, p. VII-3 (1 October 1973). SECRET RESTRICTED DATA NO FOREIGN DISSEMINATION

sea and air forces is currently being carried out within the framework of the general policy guidance issued by the NATO ministers in May of 1975. This guidance reaffirms NATO's basic aims and strategy and sets forth a Long Range Defense Concept to serve as the basis for NATO defense planning activities to 1982 at both the national and international levels.

The essence of the Long Range Defense Concept is that NATO can provide an adequate force structure for deterrence and defense if the NATO nations maintain the forces now in existence and raise those currently planned for, and if they continue to modernize and improve existing forces and their supporting facilities. The concept also places a premium on the "optimum use of resources available for defense through vigorous establishment of priorities" and through greater cooperation in the development and production of military equipment.

In brief, the Long Range Defense Concept:

- Notes that the Warsaw Pact continues to maintain a military capability much greater than that needed for defense.¹
 - At the strategic nuclear level, the Soviet Union, having achieved rough parity with the United States, appears to be seeking a strategic advantage through the development of more sophisticated and powerful weapons.
 - The quality and quantity of Warsaw Pact conventional forces, particularly in offensive capabilities, continue to be improved.
 - The expansion of Soviet maritime forces and their worldwide deployment have enhanced Soviet naval capabilities against NATO's sea communications and against NATO's naval forces.

¹ For a recent NATO assessment of WP capabilities, see the Final Communique of the Defence Planning Committee, 18 May 1977, and the report "Warsaw Pact Trends and Developments" submitted to the Military Committee on 16 May 1977, published in NATO Review, XXV (June 1977), pp. 24-30.

- Points out that in an era of rough strategic parity deterrence of all forms of aggression must be provided by the total spectrum of NATO forces. The Alliance must be able to respond in an appropriate manner to aggression of any kind, and must at the same time make the aggressor recognize the dangers of escalation to a higher level. In order to implement the strategic concept, NATO's conventional, tactical nuclear and strategic nuclear forces should each be credible and should collectively produce an interlocking system of deterrence and defense. Accordingly:
 - The conventional forces should be capable of resisting--and repelling--a limited conventional attack;
 - Larger scale conventional attacks should be deterred by the clear prospect of an increased scale of hostilities, up to the use of nuclear weapons, and/or by the possibility of sustained defense in the forward areas sufficient to inflict serious losses and convince the aggressor of the risks of continuing the aggression.
 - The tactical nuclear force is to enhance the deterrent and defense capability of NATO forces against large-scale conventional attack, the expansion of limited conventional attacks, and the possible use of tactical nuclear weapons by the aggressor. The aim is to convince the aggressor that any form of attack could result in serious danger to his forces, and to emphasize both the dangers of continuing the conflict and the risk that the situation could escalate beyond his control up to all-out nuclear war. Conversely, NATO's capability should be such that control of the situation would remain in NATO hands.
 - The role of strategic nuclear forces is to strengthen flexible response options, to provide the capability of extending deterrence across a wide range of contingencies, and to provide an alternate sanction for the overall strategy.
- Calls for the modernization of both strategic and theater nuclear capabilities and places major emphasis on improving NATO's conventional forces.

In furtherance of the Long Range Defense Concept, NATO authorities in May of 1976 adopted force goals for the period 1977-82 which seek to bring about those improvements in NATO forces most needed to offset the increasing strength of the Pact forces:

- Land forces: The goals for the land forces stress the need for the achievement and maintenance of NATO standards for manning levels, war reserve stocks and training; replacement and modernization of equipment with emphasis on armor/antiarmor, air defense and procurement of modern surface-to-surface missile systems; improvements of command, control and communication capabilities protection against chemical weapons; improved target acquisition and battlefield surveillance equipment; improvements in electronic warfare capabilities; and the wider introduction of computerized systems.
- Air forces: The goals seek qualitative improvement rather than increased numbers of aircraft and emphasize such improvements as the introduction of modern aircraft equipped with adequate self-protection; electronic and infra-red countermeasure equipment; modern, accurately delivered airburst and terminally guided weapons; and the provision of an active air defense against all-weather low-level attack.
- Maritime forces: The goals provide for the maintenance to the present level of forces, the acceleration of modernization and replacement programs, and the achievement of higher states of readiness. In the fields of antisubmarine warfare and survivability, emphasis is also placed on improvement in maritime air capabilities and on direct defense by shipborne weapon systems against air and missile attack, on improved electronic warfare capability, and on the introduction of the new antisubmarine warfare cruisers and support ships together with the associated V/STOL aircraft programs.

3. Impact of Technology

Technology offers the potential for significant improvements in NATO's defense posture generally and in fulfilling the criteria listed above. Since the potential for the technological improvement of military capabilities far exceeds any expected levels of funding, it is necessary

to identify the most critical deficiencies and concentrate priority attention on resolving them. Current U.S./NATO efforts are primarily devoted to the following areas:

- Precision-guided munitions from artillery and SSMS, to air-delivered, to theater air/naval/ground launched cruise missiles in both conventional and nuclear modes.
- Highly effective antitank systems to be deployed with NATO forces.
- Highly capable all-weather air-defense systems which may be deployed down to the small-unit level with requisite command and IFF components.
- Improved battlefield surveillance and target acquisition systems.
- More discrete nuclear weapons in terms of yields, effects and ranges, providing greater selectivity of options.
- Increased survivability of nuclear forces and tactical aircraft (shelters).
- An upgrading of U.S./NATO Command, Control and Communications Systems (C3)
- Intelligence processing and dissemination.
- Strategic and battlefield mobility.
- New weapons with unique destruction and neutralization capabilities (e.g., high energy lasers).
- Night vision devices.
- And others.

4. Modernization of the Tactical Nuclear Force

Beyond these developments, however, it has become clear that recent and impending advances in military technology for the first time hold out the possibility of a full integration of NATO's military doctrine

with NATO force deployments. In the future it will be possible to tailor nuclear weapons to the military needs which would arise if war occurred in Europe, in the process both alleviating European concern that the employment of theater and battlefield nuclear weapons in response to a Soviet attack would result, in the words of a member of parliament of the Federal Republic, in "a war of annihilation that would wipe out the greater part of the German population,"¹ and improving the military effectiveness of NATO's defense forces. Up to the present, R&D efforts have focused on five key areas:

- Improving the accuracy with which ordnance is delivered on targets. Electro-optical, laser-designated, infra-red seeker, beacon-guided, and map-matching guidance systems are being developed and deployed both for conventional and nuclear weapons. Improved accuracy constitutes the most effective method for reducing collateral damage. From the point of view of military effectiveness, improved accuracies and higher kill probabilities increase the level of selective damage per number of weapons, and make possible both the use of lower yield nuclear weapons and greater reliance on conventional ordnance against certain classes of targets.
- Improving targeting capabilities and weapons employment doctrine. New methods are being developed for estimating desired target damage and the weapons necessary to achieve that damage, as well as for matching weapons and targets more effectively. The DCAPS (Dual Criteria Aimpoint Selection) program, for example, is designed to maximize the effectiveness of tactical nuclear weapons against specific targets while minimizing nontarget damage.²
- Tailored effects weapons. Recent innovations in weapons design have focused on fabricating systems to achieve particular purposes. So-called earth-penetrator nuclear weapons, detonated at sufficient depths in the ground, can minimize or eliminate fireball effects on the surface,

¹ Helmut Schmidt, Defense of Retaliation, p. 66 (London, 1962), quoting Bundestag leader Peter Blachstein.

² DCAPS is basically a computer program designed to produce the aimpoints for various weapons which would result in maximum damage to designated targets and minimum collateral damage. It has been developed under a DNA contract by SAI. For a brief discussion of DCAPS (as well as of several other DNA-sponsored programs) see Edgar Ulsamer, "DNA's Business: Thinking the Unthinkable," Air Force, September 1976, pp. 50-54.

thus reducing collateral damage. At the same time, enhanced radiation weapons (ER), which can release up to 80 percent of their yield in very high energy neutrons,¹ can be used with great effectiveness against enemy personnel. ER weapons have a larger effective radius against personnel than normal fission weapons of the same yield; thus lower yield weapons can be used to accomplish a given military task, with considerably reduced collateral damage (particularly if adequate civil defense measures are undertaken.)

- Improved methods for assessing collateral damage. Recent studies have raised the possibility that past estimates of collateral damage which would result from the use of nuclear weapons in the European theater are too high. If this possibility is confirmed by subsequent research, the views of the Europeans on the possible role of tactical nuclear weapons in the defense of Europe might change to some extent.
- Increased attention to the likely consequences of protecting the civilian population. Although it has long been recognized that civilian casualties could be reduced in the event of war if even minimal civil defense measures were employed, the technical difficulties and high costs associated with achieving adequate blast protection have made civil defense an unpopular issue in Europe. However, radiation protection is much easier to achieve than blast protection.² A simple and relatively inexpensive civil defense program, which was accompanied by a shift in the NATO nuclear weapon stockpile from present systems to large numbers of low-yield ER weapons, might have greater political appeal in Europe than previous civil defense proposals.

C. Importance of European Views

These developments suggest, then, that the modernization of NATO's tactical nuclear force could substantially reduce one of the most important

¹ See the discussion of ER weapons in Samuel T. Cohen and William R. Van Cleave, "Western European Collateral Damage from Tactical Nuclear Weapons," Journal of the Royal United Services Institute for Defense Studies, 121 p. 36 (June 1976).

² See Cohen and Van Cleave, op. cit., p. 36.

European criticisms of the role of tactical nuclear weapons in the defense of Europe. Criticism of existing NATO military doctrine in the United States might be alleviated as well. Before assessing the possible reaction in Europe to the possibility that a future war in Europe might result in substantially lower levels of collateral damage than normally postulated, however, it is first necessary to evaluate the collateral damage issue in the context of broader European concerns about tactical nuclear weapons.

III THE EVOLUTION OF EUROPEAN THINKING ON TACTICAL NUCLEAR WEAPONS

A. Origins of European Thinking on Tactical Nuclear Weapons

1. The United Kingdom

As several scholars have pointed out, the British were among the first to recognize the military value of the atom. Early in 1940 a special committee of the Cabinet was established to examine the scientific possibility of constructing a nuclear weapon. The committee's report, while noting the difficulties involved, stressed the decisive impact that such a weapon could have on the future of warfare, and recommended that the government undertake the effort. While Britain's nuclear effort was not pursued energetically during World War II due to more pressing demands on available resources, there can be no doubt that the early discernment in the United Kingdom that the atomic bomb would be the decisive military weapon of the future set the pattern for British military thought in the post-World War II era.¹

By 1947, when the British atomic program was once again under way, a growing body of military thinking in the United Kingdom was stressing the preeminent deterrent value of atomic weapons. British thinkers, both civilian and military, viewed nuclear weapons during this period primarily as weapons of mass destruction, in part because of the influence of such theorists of airpower as Lord Trenchard on English

¹ See the discussion in Wynfred Joshua and Walter F. Hahn, Nuclear Politics: America, France, and Britain, Washington Papers No. 9, pp. 8-9 (Beverly Hills, California, Sage Publications, 1973). For a thorough discussion of early British interest in the military potential of the atom, see Andrew J. Pierre, Nuclear Politics, Chapter 1 (London: Oxford University Press, 1972).

strategic thought, and in part because of the nature of the weapons themselves and the manner in which they had been utilized by the United States.¹ Moreover, the destructive potential of nuclear weapons was perceived to be the most effective means of maintaining Western military supremacy versus the emerging power of the Soviet bloc, despite economic pressures which seemed to compel major reductions in the conventional military forces of the North Atlantic nations. As Churchill phrased it in his "Iron Curtain" speech, so long as the West possesses the atomic bomb "there will be no quivering, precarious balance of power to offer its temptation to ambition or adventure. On the contrary, there will be an overwhelming assurance of security."²

Churchill's early convictions concerning the deterrent capabilities of atomic weapons deepened over the course of the next decade, particularly after a special briefing which he received at the Pentagon in January 1952 on the military capabilities of the Strategic Air Command. His view ultimately became the basis for the revised British defense concept embodied in the Global Strategy Paper of 1952, which was in most essentials identical to the "massive retaliation" policy announced by the United States two years later.³ A number of factors explain the development of Churchill's views--and those of other British thinkers--on the desirability of basing the Western defense position on a declaratory policy of massive retaliation. Economic considerations played a part, as did the prevalent British view of

¹ To be sure, there were those in Britain, as elsewhere, who denied that nuclear weapons were anything but bigger and better bombs. See *ibid.*, pp. 72-73.

² "Alliance of English-Speaking Peoples: A Shadow Has Fallen on Europe and Asia," speech delivered at Westminster College, Fulton, Missouri, 5 March 1946, *Vital Speeches of the Day*, XII, p. 332 (15 March 1946).

³ For a useful discussion of the Global Strategy Paper and its background, see Richard N. Rosecrance, *Defense of the Realm: British Strategy in the Nuclear Epoch*, pp. 157-164 (Columbia University Press, New York, 1968).

the nature of the Soviet threat. The development of the United Kingdom's own independent nuclear deterrent--and the need, in turn, to develop a military rationale for the type of force being procured--was also a factor: if a threat to destroy Soviet population centers was not a sufficient deterrent against a Soviet attack, what justification could be offered for the small nuclear strike force which the British government had decided to develop?

During the late 1940s and early 1950s, then, there was in the United Kingdom little interest in the tactical potential of nuclear weapons; few in Britain believed that nuclear war could be limited, and most appeared to believe that effective deterrence required that the threat of retaliation be articulated in the most stark terms possible. These views were echoed elsewhere in Europe. Beginning in mid-1953, however, a significant body of dissenting opinion emerged. A lengthy article in the London Times in May 1953 analyzed the capabilities of atomic artillery and the Honest John and Corporal missiles then being developed by the U.S. Army; the author urged that the NATO nations procure as soon as practicable tactical nuclear and conventional forces capable of winning "decisive victories on the battlefield." NATO should repudiate, he argued, a "merely passive defense posture" which relied exclusively on strategic nuclear weapons.¹ High staff officers in the British army had already begun analyzing the possibilities for battlefield use of such weapons,² and such well-known military figures as Field Marshal Montgomery, Brigadier C. N. Barclay, R.A.F. Marshal Sir John Slessor, and General Sir Richard Gale publicly supported a tactical nuclear posture for the West. A small but vocal group of thinkers in Britain has supported this position ever since.

¹ "Atomic Artillery," The Times (London) (26 May 1953).

² For a discussion of the early efforts of the British Army, which included a role in the major NATO exercise "Battle Royal," see A.J.R. Groom, British Thinking About Nuclear War, pp. 6571 (London: Frances Pinter, 1974).

Almost immediately, however, a reaction set in, and the sudden fascination with tactical nuclear weapons which had emerged in Britain in 1953 began to fade. The release by Soviet and American officials of detailed data on the destructive potential of the hydrogen bomb appears to have been a principal cause: as Robert Osgood has observed, the graphic descriptions in the British press of the enormous thermo-nuclear explosions which occurred during nuclear tests in both countries in the mid-1950s "seized the popular imagination with a force unparalleled by the atom bomb."¹ Almost immediately, tactical nuclear weapons became matters of interest only to military planners; for the public and most political leaders, all nuclear weapons tended to be lumped together as "the bomb," and all possible uses were usually equated with the destruction of Hiroshima or worse. The views of Sir Solly Zuckerman were highly significant in influencing public opinion in this direction during the late 1950s and early 1960s.²

Thus, while there has always been a considerable variety of opinion among both civilian and military commentators in the United Kingdom on the proper role for tactical nuclear weapons in the defense of Europe, the broader British public between 1955 and 1962 tended toward the view that such weapons should be utilized only as a last resort, as United States Information Agency polls show:

"Would you approve or disapprove of the use of atomic weapons on enemy soldiers at the front line, if Western Europe were attacked without use of atomic weapons?"

¹ Osgood, op. cit., p. 112.

² For Zuckerman's views see e.g., "Judgment and Control in Modern Warfare," Foreign Affairs (January 1962).

	<u>Feb. 1955</u>	<u>May 1957</u>	<u>June 1962</u>
Number interviewed	805	1,232	647
<u>Percentage</u>			
Approve	9	11	13
Disapprove	67	66	72
No opinion, or qualified answer	24	23	15

If "Disapprove" on preceding question:

"If it were the only way to stop an enemy at the threshold instead of being overrun, would you be for the use of atomic weapons on enemy troops at the front lines?"

	<u>Feb. 1955</u>	<u>May 1957</u>	<u>June 1962</u>
<u>Percentage</u>			
Approve in this context	45	43	31
Continue to disapprove	20	22	32
No opinion or qualified answer	2	1	9

The responses to the last question appear to indicate that during this period a significant segment of the British population, particularly from the upper socioeconomic strata of the population, saw at least some utility in using tactical nuclear weapons as a last resort to prevent a Soviet victory. The USIA analysts, however, add an important cautionary note:

The meaning and the limitations of this type of finding should, however, be clearly recognized. It means, presumably, that under extreme conditions, e.g. the actual appearance of a formidable invading army or the application of extraordinary persuasive efforts, the present popular antagonism to the tactical use of atomic weapons might be overcome at least in Great Britain. But it certainly does not mean that the process of distinguishing tactical from other uses of atomic weapons, and of sanctioning the use of tactical atomic weapons (as distinguished from their possession), has already occurred in the popular mind, even in Britain. Present views are better represented by the replies to the previous question, without pressure, and on that question the British public shows a disapproval of the tactical

use of atomic weapons almost as great as their disapproval of the strategic use of such weapons.¹

In other words, the horrific public image of nuclear weapons which had developed in the wake of the 1955 publicity on the power of the hydrogen bomb remained predominant through 1962.² Governmental policy during this period, which emphasized the deterrent role of nuclear weapons, was thus in accord with popular views. In this respect the controversial 1959 defense program of Defence Minister Duncan Sandys really represented no departure from earlier policies.³

Thus, while the 1954 Defence White Paper observed, almost in passing, that "the use of tactical atomic weapons can be of some advantage to a power weak in numbers but strong in technical development,"⁴ it was not until 1960 that the White Paper referred to conventional forces as "a necessary complement to nuclear armaments," and not until 1962 did an official defense posture statement unambiguously recognize the need for at least a semblance of balance between nuclear and conventional forces in NATO's defense force:

We must continue to make it clear to potential aggressors, however, that we should strike back with all the means that we judge appropriate, conventional or nuclear. If we had nothing but nuclear forces, this would not be credible. A balance must be maintained, therefore, between

¹ United States Information Agency, Current Trends on West European Defense Issues and the Role of Atomic Weapons, Report #49, pp. 16-17 (25 July 1957, declassified following 20 August 1963); Trends in West European Opinion on the Tactical Use of Nuclear Weapons, pp. 1-2 (10 August 1962, declassified following 25 August 1964).

² That image was in part formed by the publicity given to the "Carte Blanche" exercise, discussed below, although the major impact of that controversy occurred in the FRG.

³ For an analysis of the Sandys program, see Pierre, op. cit., pp. 95-111.

⁴ House of Commons Debate, 2 March 1954, cd. 1021.

conventional and nuclear strength. Neither element must be so small as to encourage an aggressor to seek a quick advantage, or to risk a provocative local incident escalating into a major war.¹

A careful analysis of the White Papers of the period, however, indicates that British political leaders had far from abandoned their belief in the primacy of deterrence over defense, and that they retained as well an abiding suspicion of the military utility of the tactical nuclear weapons systems then available.

2. The Federal Republic of Germany

The views of the FRG on deterrence and defense in Europe and on the role of tactical nuclear weapons have from the outset been affected by Germany's particular postwar history. For obvious reasons there was no nuclear research program in Germany after 1945 (in fact, even during the war nuclear physics research was a low-priority item for the Hitler regime). As a result, when the German rearmament program began in the mid-fifties, the military and political leadership of the FRG was basically ignorant of the revolution in warfare which had been brought about by nuclear weapons. The extensive series of interviews with the civilian and military leadership of the FRG conducted by Hans Speier of the RAND Corporation during 1952 showed that, although most of the respondents believed that the Soviet Union was effectively deterred by the United States, it was the industrial potential of the U.S. and American preeminence in sea and air power, not the U.S. nuclear capability, which was considered the primary deterrent.²

¹ Pierre, op. cit., p. 169, citing Report on Defence: 1960, Cmnd. 952; Statement on Defence, 1962: The Next Five Years, Cmnd. 1639, p. 5.

² See Speier, German Rearmament and Atomic War, pp. 112-113, 132-140 (Evanston, Ill.: Row Peterson and Co., 1957).

By 1954, however, widespread media reports on the Dulles "massive retaliation" doctrine had stimulated considerable discussion in West Germany of the role of the nuclear weapon in world politics. In the main, however, this discussion--and the reaction of German elites to the issues raised--was confined to generalities. The military generally approved of the massive retaliation policy, and quickly adopted the view that Communist aggression in Europe would--and should--immediately lead to all-out war. Although some were willing to concede the possibility of a local war outside Europe, it was believed that small nuclear weapons would be used even in these conflicts.¹ By 1955, most professional officers in the FRG had come to regard tactical nuclear weapons as an essential and integral part of the NATO defense effort.

The public, on the other hand, from the outset took a different view. Never enthusiastic about the U.S. declaratory strategy of massive retaliation, fearing that it would lead to holocaust in Europe, German civilians, including many political leaders, preferred to believe that even if an East-West conflict occurred it was possible that the use of nuclear weapons might be avoided.²

Thus, from the beginning of West Germany's membership in NATO, FRG policymakers were confronted with a profound dilemma. Apprehensive over the threat from the East, they joined the Alliance with eagerness; stimulated by the same fears, they also had the largest

¹ In an important article published in the leading German military monthly ("Atomwaffeneinsatz mit Verbeholt", Wehrkunde), analyzing the NATO Council directive of December 1954 concerning tactical nuclear weapons, Joachim Ruoff argued that Soviet superiority in ground forces was a compelling reason for NATO to deploy, and use if necessary, tactical nuclear weapons. He was critical of the Council for holding out the possibility that nuclear weapons might not be utilized at the outset of a conflict.

² See Speier, op. cit., pp. 114-126.

stake both in the maintenance of an effective deterrent in Europe and, after it became clear that the conventional force goals set for the Alliance at the North Atlantic Council's Lisbon meeting of 1952 would not be met, in the forward deployment of nuclear weapons in Europe. At the same time, memories of the destruction which had resulted from World War II remained strong; and the apocalyptic visions of the consequences of nuclear war, which were already beginning to dominate public discussion, constituted an important constraint upon serious thinking about the role of nuclear weapons in Alliance deterrence and defense policies.¹

3. The Impact of the "Carte Blanche" Crisis on European Thinking Concerning Tactical Nuclear Weapons

These problems surfaced in the FRG (and, to a lesser extent, in the United Kingdom as well) as a result of the media publicity given to the NATO military exercise "Carte Blanche" in 1955. The importance of this controversy in solidifying emergent perceptions in Europe² concerning the consequences of nuclear war on the continent, and thus of the collateral damage issue, cannot be overemphasized.³

"Carte Blanche" was a NATO military exercise designed to examine problems of air offense and defense in the event of a Soviet attack in Europe in which tactical nuclear weapons were utilized. More specifically, it was designed to test the operational implications of the December 1954 NATO Council decision that in the event of a

¹ For a discussion of these dilemmas, see Walter F. Hahn, Between Westpolitik and Ostpolitik: Changing West German Security Views, Foreign Policy Papers No. 3, pp. 46, 54-55 (Beverly Hills, Calif: Sage Publications, 1975).

² The publicity given to "Carte Blanche," of course, also had a significant impact in the U.S.; to this day it continues to be cited by congressional opponents of the deployment of tactical nuclear weapons in Europe.

³ The most complete accounts of the controversy which developed over "Carte Blanche" are to be found in Speier, op. cit., pp. 144ff and Chap. 10, and in Catherine M. Kelleher, Germany and the Politics of Nuclear Weapons, pp. 35-43 (New York: Columbia University Press, 1975).

massive Soviet ground assault in Europe, an early (and heavy) resort to tactical nuclear weapons by the defenders was essential. Three thousand aircraft were employed by the West and the explosion of 335 nuclear bombs on 100 German targets was simulated. Within a day after its conclusion, all principal FRG press and media organs were reporting the sensational results: if the exercise had been actual combat, 1.7 million Germans would have been killed and 3.5 million more wounded; additional casualties would have resulted from fallout and other post-battle factors.

The media reports produced widespread public unrest and agitation throughout the FRG. As Hans Speier has written:

Carte Blanche stirred the German press and the Bundestag more than had any previous maneuver involving atomic weapons, or any public statement on the atomic defense of Europe. It furnished emotionally powerful ammunition to the parliamentary opposition, which treated it as a rehearsal for war. Through [the publicity given to the affair by]...journalists, notably Adelbert Weinstein, the impact of atomic weapons upon European defense became for the first time the concern of the widest possible public in Germany. The Bundestag debates on Carte Blanche in July and December, 1955...were broadcast to millions of Germans.¹

Weinstein's reaction was indeed typical of the press commentary (an analysis of press comment, in fact, shows that his articles on the exercise set the tone--and even shaped the terminology--of much subsequent discussion). Then as now the military commentator for the Frankfurter Allgemeine Zeitung (FAZ), Weinstein is a retired Army major and a former General Staff officer with a wide following in the FRG. The conclusions which he drew from the exercise--which he attended--were that all theories of defense were inapplicable in the nuclear age; in the event of war in Europe, the FRG would be the primary zone of combat, and

¹ Speier, op. cit., p. 182.

the West German population would be largely annihilated. He demanded that the Adenauer government abandon the German rearmament program and reallocate the 9 billion DM projected for arms procurement to civil defense.¹

The political reaction was similar. Prominent Social Democratic Party (SPD) spokesman Erich Ollenhauer, Fritz Erler, Peter Blachstein, and Wilhelm Mellies were particularly active in the debate; while they rarely addressed themselves to the military problems raised by the role assigned to nuclear weapons in theater defense, they stressed heavily the likely collateral damage to German noncombatants which would result if such weapons were used, and denounced the government both for accepting NATO strategy and for its failure to consider measures to protect the population in the event of war. In its replies, spokesmen for the government avoided the collateral damage issue entirely, arguing instead that the role of theater nuclear weapons in the defense of Europe was not yet clear, and insisting that even in the nuclear age ground forces--including FRG ground forces--were essential to the defense of Europe. The debate continued at varying lengths of intensity for over six months.²

As noted above, the general public was profoundly shaken. Although an opinion poll conducted by a German research organization taken some months after the exercise showed that only 46 percent of the population had heard enough about "Carte Blanche" to offer an opinion,

¹ See his articles in the F.A.Z. for 22 June, 24 June, 28 June, and 12 July 1955.

² The most balanced account of the exercise appeared in a two-part series in Wehrkunde in July and August 1955, entitled "Luftmanöver 'Carte Blanche' in Kommandobereich Mitteleuropa." Its author argued that a role for atomic weapons in European defense was a fact of life, but that a reorganization of the ground forces of the FRG was necessary if they were to be prepared to fight a nuclear war.

twice as many persons had an unfavorable impression of it as were favorable. Another survey taken in September 1955 showed--presumably as a direct result of the publicity given to the exercise--that there had been a significant increase over the previous year in the number of Germans opposing U.S. use of tactical nuclear weapons in response to a Soviet conventional attack on Western Europe; 65 percent were opposed to a nuclear response to Soviet aggression by NATO forces. More than one-third of the respondents directly or indirectly cited the collateral damage question as the reason for their position.

The ultimate effect of the controversy on the Adenauer government, however, was probably as important for the future of German opinion on nuclear issues as was the direct impact of the crisis on the public itself: the government leadership determined that in the future public discussion of military issues should be confined to generalities, and that controversy over such issues should be avoided at all costs. As a result, future debate over such issues has proved to be impoverished indeed. The number of Germans knowledgeable on military questions remains surprisingly small to this day, and the risks involved in instituting a public debate on such questions therefore correspondingly large.

The reaction to "Carte Blanche" in the United Kingdom, while not as decisive a factor in shaping public attitudes as was the case in the FRG, was also significant. Press analyses of the exercise, almost universally negative, declared that "Carte Blanche" showed that tactical nuclear war would result in "suffering and damage on an almost unconceivable scale," and that such a war would necessarily be "short and horrible," with "no winners, no losers, and little left to assess." Commentators generally concluded by calling upon the NATO states to reexamine the Council's 1954 decision to use tactical nuclear weapons in the event of Soviet aggression.¹

¹ See, e.g., "Simulating an Atomic War," The Times (London) (25 June 1955) and "NATO Air Test Lesson," *ibid.* (29 June 1955).

In general, then, the publicity given to "Carte Blanche" in Europe confirmed the worst fears of a wide spectrum of Europeans about the consequences of a failure of deterrence. For a variety of reasons, European preferences in any case lay in the direction of relying on the deterrent capabilities believed to be inherent in the overall power of the West, especially U.S. strategic airpower; they were unable to face up to the prospect that still another protracted conflict might have to be fought on the territory of the continent, and were unable or unwilling to allocate the resources necessary to procure an adequate conventional defense. At the same time, European opinion grew periodically uneasy over the state of the military balance on the continent and, especially when prodded by U.S. leaders during the fifties, conceded that theater nuclear weapons could help redress that balance. Since, however, most Europeans were convinced that a tactical nuclear war could be even more catastrophic than a conventional conflict, it was the deterrence imbalance, not the actual military imbalance, which they hoped the deployment of tactical nuclear weapons would redress. As late as 1973, 75 percent of the respondents to a survey in the FRG and 79 percent of respondents to a similar poll in the United Kingdom were opposed to NATO use of nuclear weapons if the Soviets mounted a nonnuclear attack on Western Europe. (The numbers favoring such use rose to only 50 percent in the FRG when the question was altered to specify that the Soviets used nuclear weapons in their attack.) There was little attention, except in a narrow circle of officials, primarily in the military, to the possibility that the use of theater nuclear weapons could enhance the prospects that NATO forces could contain a Soviet assault close to the demarcation line.

4. The Debate Over "Flexible Response"

Against this background the European reaction to the changes in Western military doctrine proposed by the Kennedy-McNamara administration appears less inexplicable than it did to many U.S. officials at the time. In the European view, especially in the U.K. and the FRG,

the initial U.S. proposal for a doctrine of "flexible response" had little to commend it. The doctrine appeared to imply a substantial weakening of deterrence by holding out the possibility of a lengthy conventional phase in any conflict in Europe, with the manner and extent of the U.S. nuclear response, whether strategic or theater, left uncertain. Given the European assessment of Western conventional capabilities, moreover, they understood the preferred U.S. strategy to imply that when theater nuclear weapons were employed, perhaps quite late in the game, they would be used on West European territory, with catastrophic results. Thus, in the West European view, "flexible response" promised the worst of all possible worlds: a weakened deterrent and a higher probability of war; if war occurred, moreover, it would be the most destructive kind of conflict possible. These views were held, in varying degrees, all over Europe. The net result of the debate over flexible response, then, was to focus European thinking even more strongly on the need to deter war, and to inhibit further consideration of the problems and prospects for winning a war in Europe should one occur.

IV CURRENT EUROPEAN VIEWS ON TACTICAL NUCLEAR WEAPONS

A. Public Discussion of Weapons Technology: Recent Issues

The debates generated by the strategic proposals of the Kennedy Administration and the doctrine of flexible response constituted the last extensive public discussion in Europe on the broad issues of NATO's defense posture. Since the early 1960s such public discussion as has occurred has involved specific issues and has touched only tangentially on fundamental questions. In the Federal Republic of Germany the rise and fall of two issues is especially illustrative, both of the quality and intensity of public discussion on national security issues and of the substance of popular attitudes:

- The so-called "atomic mine debate" over the plan (associated with General Heinz Trettner) to deploy a belt of atomic mines along the border between the Federal Republic of Germany and the German Democratic Republic and the CSSR.
- The debate over Prof. K. F. von Weizsacker's study, Kriegsfolgen und Kriegsverhütung (The Consequences of War and its Prevention)¹, which analyzes the problems of deterrence and defense in Europe in an ostensibly scientific manner, and which contends that the FRG could not survive a nuclear war at any level.

On both issues, voluminous material is available in the form of press, radio and TV reports, public statements by officials and political leaders, letters to the editor, etc. In fact, there are few post-World War II national security issues involving the FRG on which a more complete record of public discussion and public views exists.

¹ Carl Friedrich von Weizsacker (ed), Kriegsfolgen und Kriegsverhütung (Munich, 1971).

1. The Debate on the ADMs

The starting point of this discussion, which from the outset was characterized by a notable vagueness in the terminology employed, was a report by Adelbert Weinstein, published in the F.A.Z. of 16 December 1964, under the headline: "Atomic Mines along the Demarcation Line?" In the article Weinstein reported on a meeting of the NATO Military Committee in Paris where the then Chief of Staff of the Federal Armed Forces, General Heinz Trettner, is alleged to have asserted:

...an attack from the East must be countered from the outset by the combined conventional forces in Central Europe. The potential enemy is expected to run into a barrier of atomic mines installed at a short distance from the demarcation line, on West German soil.

Since the West would never attack first, General Trettner was said operations in the event of war. He expected the barrier, however, to have a decisive impact on the initial phase of any Soviet assault.

The article further reports that all the NATO officials present, with the exception of the British representative, Admiral Lord Mountbatten, received the German proposal favorably. U.S. Defense Secretary McNamara, for example, was reported to have instructed his experts to examine the German proposal with care, and to develop a rationale for its inclusion, with appropriate modifications, in NATO's defense plan. Weinstein himself, it should be noted, consistent with his previously expressed views on tactical nuclear weapons, did not share this asserted enthusiasm, remarking at the conclusion of the article:

¹ For a brief but perceptive discussion of the advantages and disadvantages of the Trettner plan, see Edgar O'Ballance, "Nuclear Land Mines," Ordnance, September-October 1966, pp. 165-166.

In addition to financial reservations there are those of the psychological type. The employment of atomic mines in relatively densely settled areas, some of which are industrial zones, and a mobile engagement along a borderline of 1000 km in length would affect about 10 million Germans directly and the entire Federal Republic indirectly.

The shortest comment was made by Theo Sommer, today chief editor of his newspaper, Die Zeit, in the issue of 25 December 1964. Sommer compared the "Trettner Plan" to the French Maginot Line, and wrote as follows:

A nuclear Maginot Line would be military nonsense. Self-destruction cannot be the content of forward defense, if the deterrent is not to lose all credibility. With a doctrine of Kamikaze heroism which threatens to destroy what shall be defended, one only deters one's own people, never the enemy. It cannot be the mission of the Federal Armed Forces in an emergency to first let the people along the demarcation line die, instead of securing their survival to the degree possible. The consequences in domestic and foreign policy of this new fallacy proposed by the leadership of the Federal Armed Forces would be devastating.

The political debate was equally uninformed. Parties and political associations, trade unions and churches, local community officials, and private individuals issued public protests against the plan and variants alleged to be under consideration. The Deutscher Gewerkschaftsbund (Trade Union Association) asserted in a published resolution that the FRG must not erect "death zones along the demarcation line and thus do the same thing of which we justifiably accuse the rulers in East Germany." His aesthetic sensibilities apparently disturbed, the president of the Braunschweig administrative district declared: "These plans are in complete contradiction to the promise made by Federal President Lubke on the occasion of his visit to the district along the demarcation line that this country shall be made more attractive." The Helmstedt county organization of the Social Democratic

Party criticized the alleged proposal in similar terms, asserting that "the establishment of such an atomic mine belt would represent a deadly danger for the business, community and general life in the area along the demarcation line. Everything should be done to avert this danger." The military expert of the Social Democratic Party, then the Senator from Hamburg, Helmut Schmidt, at the same time called the alleged plans for atomic mine barriers "extremely surprising"; he said that, if implemented, they would lead to "political as well as military suicide for the Federal Republic." Schmidt concluded: "We cannot and do not want under any circumstances to copy Ulbricht's trip-wire and barrier zone policy." And a press release by a political organization of the Social Christian Party stated: "Without entering into the discussion of the military feasibility of such weapons, the Social Christian Party points out with emphasis that such plans and ideas, and their publication, are impossible for political and psychological reasons."

Finally, as a rather typical example of the numerous letters to the editor which arrived at newspaper editorial offices during this period, one is drawn to the following letter by H. H. A. Drescher printed by Westfälische Rundschau on 12 January 1965:

Bravo, General!

With understandable surprise I read the report on the atomic mine belt along the demarcation line which the German side has suggested. Bravo! Just let anyone claim that we Germans do not bear enough sacrifice for the free world. Where else do you find a country whose leading military men take it upon themselves to install a blocking belt of atomic mines in the middle of their Fatherland which, in the event of an attack from the East, would expose their own people like a scourge of God, extremely unclean, extremely radioactive? Compared to them, how pitiful are the small trip mines used by the East which tear off only arms or legs and can kill only a few people?

Fellow-citizens, future Kamikaze heroes of the free world, be proud of this mental attitude!

The summary judgment of Adelbert Weinstein, however, is worth noting. In an analysis published in the F.A.Z. of 22 December 1964 and headlined "From Schlieffen to Trettner," the author whose article had initiated the controversy attempted to return the discussion to a more rational plane. Public reaction to the alleged plans of the Federal Government to use nuclear mines along the demarcation line for the purposes of forward defense, he said, was "typical for our political present. Parts of the public and some politicians have allowed themselves to become overwhelmed by a feeling of fear and self-pity." Weinstein added: "The military side of this problem, by comparison, was given a relatively shallow treatment by the media." Perhaps in part due to Weinstein's second thoughts, the "atomic mine debate" died down rather quickly, in sharp contrast to the month-long controversies engendered by the initial reports on the "Carte Blanche" exercise and on the "Radford Plan."¹ Nonetheless, the intensity of the public reaction had a significant impact on NATO force deployments: At the insistence of the FRG government, proposals for peacetime emplacement of ADMs along the East-West demarcation line have been abandoned, and specific instructions on nuclear mines have subsequently been included in the constraints imposed on SACEUR for the use of tactical nuclear weapons.²

2. The Debate in the FRG over the "Weizsacker Study"

The so-called Weizsacker study originated in a series of

¹ In July of 1956, widespread reports in the American press suggested that the then Chairman of the Joint Chiefs of Staff, Admiral Arthur Radford, had called a new approach to U.S. strategy which devoted primary attention for attaining a demonstrable American superiority in the means of strategic retaliation and reduced all other forces in size. The U.S. Army was said to be ticketed for a 450,000 man cut, the majority to be withdrawn from overseas assignments. Despite immediate denials in Washington, the reports stimulated a lengthy controversy in Europe. For a thorough discussion see Kellecher, op. cit., pp. 43-56.

² See, e.g. NATO document DPC/D (70) 60, "Special Political Guidelines for the Possible Use of ADMs" (10 December 1970).

intragovernmental discussions conducted in the early sixties on the question of civil defense in the Federal Republic of Germany. Critics of FRG defense policy had been asserting that government planners had failed to take adequately into account the possibility of a conventional defense for Germany. This led to a proposal that the effects of a war waged on the territory of the Federal Republic should be analyzed scientifically on the basis of different scenarios. Such an analysis was carried out between 1964 and 1969 under the direction of the highly regarded nuclear physicist and philosopher, Professor Carl Friedrich von Weizsacker.¹

The result was presented to the public in January 1971 in the form of a study of 700 pages. The volume, in addition to its basic topic, also devoted considerable space to the question of deterrence at both the strategic and theater levels. It was perhaps the most complete scholarly effort in the field of strategic analysis ever published in the FRG.

On the question of strategic deterrence the study team concluded that, although the second strike capabilities of the West were probably sufficient for the present, there was a danger that technological advances might sufficiently degrade U.S. capabilities in the future so as to threaten strategic stability.

On the question of deterrence and defense in Europe, Weizsacker's group was even less sanguine. Using calculations based on the assumption that NATO strategy if implemented would result in the extensive detonation of large-yield theater nuclear weapons on FRG soil, the study concluded that the Federal Republic of Germany was militarily indefensible. Even if theater nuclear systems were not utilized in

¹ Weizsacker had participated in a number of conferences on nuclear issues during the preceding decade, and had authored several works in the field. He was a well-known opponent of a nuclear defense for Germany, having signed the 1957 Gottingen Appeal urging that the FRG renounce the production, testing, and future use of nuclear weapons of all types.

a major way, according to Weizsacker, the Federal Republic and its population would be annihilated in the event of major war in Europe. The security of the FRG, therefore, could not be ensured by defensive preparations, but only by deterrence.

Press reaction was instantaneous, with the following headlines from the daily press typical:

- "Deterrents [sic] will not secure peace"
- "Weizsacker: world war is probable"
- "World war is feared"
- "Are we threatened by a third world war?"
- "200 nuclear weapons could destroy the Federal territory"
- "Nuclear war would lead to the annihilation and death of citizens"
- "When the bomb drops on Bonn..."

"Anything beyond an extremely limited response to a Soviet assault," the Kolner Stadtanzeiger asserted in its issue of 22 January 1971, "that is, anything worthy of the name of defense, appears almost lunatic under present day conditions which Weizsacker's study describes for all parts of our way of life: we do not have any adequate chance of lasting through a war, much less survive it; we simply must prevent it."

A commentary by the Deutsche Welle, broadcast that same day, similarly asserted:

If he reads Weizsacker's study the objective reader will ask himself: "Why defense at all, if it is useless from the outset?"

Adelbert Weinstein also expressed his fundamental agreement with the Weizsacker thesis:

The Federal Republic of Germany cannot be defended by military means; no country on earth can be defended. In the event of conflict we could not evade our annihilation as a viable industrialized nation.

Weinstein concludes by praising the study for its "careful distinction...between defense strategy and deterrence strategy."¹

It should be noted that even today, after five years, there has been no official reaction on the part of the FRG Ministry of Defense to Weizsacker's analysis. Public discussion of the study, however, did not reach the level of intensity provoked by the ADM proposal, let alone that provoked by "Carte Blanche."

3. The 1973 "Mini-Nuke" Controversy in Europe

One final issue which resulted in a significant public debate in Europe over the role of tactical nuclear weapons in European defense deserves discussion: the "mini-nuke" controversy which developed in Great Britain and to a lesser extent in the Federal Republic in the spring of 1973. The controversy was stimulated principally by a conference of defense experts held in France to which several prominent European military correspondents had been invited. In May of 1973, several stories appeared in the British press suggesting that U.S. defense planners hoped to introduce a new generation of miniature battlefield nuclear weapons in Europe within the next half-decade. The reports--several of which included a reasonably accurate description of the military capabilities of the new nuclear systems then under

¹ As previously noted, Weinstein's views of nuclear war had been heavily influenced by the "Carte Blanche" exercise.

development--seemed at first destined to revive the old controversy in Great Britain over the use and control of tactical nuclear weapons in European defense. Press commentary was in the main unfavorable to the proposed changes in NATO's nuclear arsenal. Charles Douglas-Home, for example, who first broke the story for the London Times, stressed the command and control issue, asserting that Allied defense ministers "who have always insisted on complete political control over the use of battlefield nuclear weapons, whatever the circumstances" would be unlikely to look with favor upon the introduction of weapons into NATO's arsenal which by their very nature would be likely to come under the complete control of battlefield commanders.¹ David Fairhall, the respected defense correspondent of the Guardian, stressed the technological obstacles which continued to impede the development of highly accurate, low-fallout nuclear weapons, and appeared to deny the possibility that the actual use of such weapons in war could significantly reduce collateral damage to civilians.² Also writing in The Times, Alan Chalfont took a similar position, calling the concept of "an elegant, clean battlefield nuclear weapon...pure Strangelovian fantasy." The fact that the idea had been "floated" at this particular time, he suggested, indicated "a political motive, almost certainly connected with the ongoing negotiations to reduce military forces in Europe."³

Three days after the initial stories on the so-called mini-nukes had appeared in the press, the issue was debated in the House of Commons, as part of an overall discussion of defense matters instituted by the Conservative opposition. Here too, the general reaction was one of

¹ Douglas-Home, "Miniature Nuclear Arms Developed By Pentagon For Battlefield Use", The Times (London) (7 May 1973).

² Fairhall, "Mini-Nuclear Arms Within Five Years, Wishful Thinking," Guardian (8 May 1973).

³ Chalfont, "Time to Shoot Down the Pentagon's Latest Bit of Gee-Whizzery", The Times (London) (14 May 1973).

skepticism. Introducing the issue, Ian Gilmour, the Minister of State for Defense, observed that ideas concerning smaller, cleaner nuclear weapons had been bruited about in the press for some time. They raised, he noted, many fascinating "intellectual questions", such as, "when is a nuclear weapon not a nuclear weapon? What system of political control should govern their use? What happens to the nuclear threshold?" In debating these questions, he concluded, "we must never forget that behind the intellectual fascination lies the security and well-being of millions of people." Hugh Jenkins, a Labour member from Putney, replied that "these questions are not merely fascinating but deadly," and demanded that the government go on record in opposition to the alleged proposals. It is interesting to note, however, that the Commons debate almost immediately turned to the issue of French nuclear testing in the Pacific and possible Anglo-French nuclear cooperation, and the issue of mini-nukes has not been raised in Parliament since.¹

Neither did the British press return to the controversy; several stories appeared in January 1974 following testimony before a U.S. Senate committee by General Andrew Goodpaster, at that time Supreme Allied Commander in Europe, advocating deployment of the new generation of smaller nuclear weapons on the continent. Little or no critical editorial comment, however, followed these brief reports.² In the Federal Republic of Germany media attention given to the mini-nuke issue was even less extensive, and substantially less critical in nature.

The contrast between the attention given to the mini-nuke issue, on the one hand, and to the earlier complex of issues involved

¹ Hansard, Vol. 856, pp. 758-88 (10 May 1973).

² See, e.g., "NATO Chief Wants Mini A-Weapons," Daily Telegraph (28 January 1974.).

in the Weizsacker study, the ADM controversy, and the Carte Blanche exercise, on the other, is instructive. The mini-nuke controversy did not arouse a great public storm, nor was such discussion as it stimulated long sustained. The reason seems clear: by 1973 a new climate of opinion on European defense issues was beginning to emerge across the Atlantic, a climate of opinion much more favorable to a balanced analysis of issues and alternatives concerning tactical nuclear force postures than had previously been the case. It remains for this chapter, then, to examine that emergent European opinion on tactical nuclear weapons, on the collateral damage question, and on related issues which bear on the modernization of NATO's tactical nuclear force.

B. Changing European Perspectives

1. Background

As indicated in the initial chapter of this report, it has never been easy to document precise changes in European attitudes on defense issues. The task of research has been rendered even more difficult in recent years by the failure of both the United States Information Agency and German research organizations to include questions on nuclear issues in their annual surveys of political opinion in the FRG and elsewhere in Europe. Nevertheless, the European consultants who contributed to the present effort and SSC senior staff familiar with European thinking agree that a significant shift in European views on several key aspects of contemporary international relations has occurred in recent years. That analysis has been confirmed by a careful examination of recent press commentary, other media reports, and the like, dealing with military issues. Many of these emerging European views bear significantly on attitudes towards NATO force modernization in general and on modernization of the tactical nuclear force in particular.

First of all, perceptions of the military balance and of political-military stability which prevailed for more than a decade have begun to fade, both in the public consciousness and in the minds of European decisionmakers. The enormous increase in the military power of the USSR, and the effects of increased Soviet military power upon both the overall strategic balance and the military balance in Europe, are no longer ignored by the public on the continent to the extent that they were during the 1960s. European officials, in fact--reversing the situation which prevailed during the middle and late fifties--have in recent years been far more skeptical about the prospects for detente and for a permanent improvement in East-West relations than have their American counterparts. During the past year, indications that the Soviet Union is moving to strengthen its European-oriented nuclear forces through deployment in the theater of the Backfire Bomber and the SS-20 missile have generated particular alarm.

Along with these changed perceptions of the threat have come significant shifts in European views concerning the most likely way in which the Soviet threat would be actualized. Throughout most of NATO's history it has been assumed that a conflict in Europe would start as a consequence of overt Soviet aggression; many commentators assumed as well that the Soviet Union would immediately resort to disarming nuclear strikes in order to bring the war to an end decisively and quickly. Under these assumptions, even technologically improved theater nuclear capabilities were considered by many Europeans to be of but marginal importance; the aggregate damage resulting from use by both the Warsaw Pact and NATO of theater nuclear weapons was thought to rule out the possibility of a nonsuicidal defense against the expected Soviet assault. Many European strategic thinkers have begun to conclude, however, that a conflict in Europe, or conflicts which may spill over into the European theater, are increasingly likely to develop in more

indirect ways.¹ Soviet military involvements in, e.g., Yugoslavia, the Middle East, Iran, or Southern Africa, which could not be regarded as overt aggression against NATO, could conceivably develop in such a way as to involve one or more of the NATO states, and thus ultimately lead to conflict in Central Europe itself. Thus NATO's defense posture in the most vital area of possible military confrontation, namely Central Europe, must be evaluated, in the European view, not only with regard to possible responses to overt aggression on the central front but also with regard to the dynamics of conflicts which may arise out of more indirect contingencies. To deal effectively with these threats, NATO requires a much wider range of discriminate options and a much higher degree of military and institutional flexibility than have heretofore existed. While the kinds of massive nuclear capabilities thus far deployed obviously retain their importance for certain uses, they may operationally speaking be of secondary importance with respect to the kinds of contingencies now increasingly considered to be likely.

By the same token, some European students of Soviet strategy now believe that the likelihood of a conventional phase in any major conflict in Europe is somewhat greater than usually believed. John Erickson, one of Europe's most highly respected Sovietologists, who prepared an input paper for this project, is among those who have concluded, on the basis of careful analyses of Soviet military exercises and other evidence, that a massive and immediate resort by the Soviets to disarming nuclear strikes against theater targets in the event of war in Europe should no longer be taken for granted. As Erickson and others have emphasized, Soviet military strategy is likely to be governed in the last analysis by political objectives; the wholesale destruction of Western Europe would not be compatible with Soviet postwar objectives. To be sure, this does not rule out selective use by the Soviet Union

¹ Uwe Nerlich laid particular stress on this emerging European perception in the input paper which he prepared for this study.

of nuclear weapons in order to support a military offensive, especially if Soviet leaders believed that the utilization of nuclear weapons in this way would not trigger a massive nuclear response by NATO. In any case, many European observers believe that both a conventional phase and a phase of truly limited nuclear war in any future European conflict are now possible. The latter, in turn, might be even more likely if NATO were prepared to wage that sort of conflict.

Finally, there remains an important body of European opinion which is convinced that the primary purpose of Soviet military deployments in Europe is not military but political.¹ According to this view, the primary Soviet strategic objective in Europe is to bend the political will of the Western states to Soviet purposes. From that perspective, the existing imbalance of military force on the continent in favor of the Soviet Union, and the declining credibility of NATO theater nuclear doctrine, can only enhance the achievement of Soviet objectives. By the same token, the most appropriate Western political response to Soviet strategy in Europe would be the development of a coherent and credible military doctrine for defeating the Soviet Union in the event of war. The modernization of NATO's defense doctrine and force deployments is increasingly seen in Europe as the most appropriate means to that end.

Political developments within the NATO Alliance itself in recent years may also facilitate changes in defense doctrines and deployments. As Uwe Nerlich has pointed out in his input paper prepared for this study,² nuclear issues no longer serve as prime vehicles for

¹ R.J. Vincent, Military Power and Political Influence: The Soviet Union and Western Europe, Adelphi Paper No. 119 (London: International Institute of Strategic Studies, 1971).

² "The Modernization of NATO's Theater Nuclear Force: Some European Policy Constraints".

the maintenance or redistribution of political control and influence within the Alliance. Nerlich thus argues that there now exists greater opportunity for dealing with nuclear issues on their merits than was once the case.

2. Current European Perspectives on Nuclear Force Modernization

As suggested above, the nature of NATO's theater nuclear posture has been influenced both by the Western conventional inferiority and U.S. strategic superiority of the fifties, and by the pace of technological developments. Given the state of military technology until recently, the only way to strengthen conventional defense appeared to be of marginal importance: substantial manpower increases were neither feasible politically nor would they by themselves necessarily have made possible a viable nonnuclear defense posture for the Alliance. There thus were few incentives for the European NATO states to integrate conventional and theater nuclear forces in a unified defense posture. Nor was the first generation of theater nuclear weapons entirely compatible with NATO conventional forces. This dichotomy of conventional and nuclear capabilities, which was reinforced by a heavy reliance on the deterrent potential of U.S. strategic forces and reinforced as well by near-absolute American control over NATO's theater nuclear weapons, contributed to the development in European thinking of what turned out to be a most unproductive distinction: deterrence versus war-fighting. So long as Europeans continued to rely on what was seen as the "ultimate deterrent", little attempt was made to improve military capabilities at the lower ends of the combat spectrum. Theater nuclear forces were not considered essential to support a conventional defense effort, but rather as an adjunct to deterrence, or as a contingency alternative to reverse catastrophic outcomes should conventional defense collapse. Moreover, technology did not yet hold out the promise of significant improvements in military capabilities; and, where new technologies were available, they were either neglected for political reasons or else became the victims of premature publicity (as discussed at some length in Chapter III and the first section of Chapter IV of this report).

For a long time, therefore, the view prevailed in Europe that a restructuring of NATO forces would be ineffectual. To the extent that changes in NATO deployments were seriously considered, they were pursued primarily for intra-Alliance purposes rather than to generate new defensive options or reduce military risks. Technology thus played a relatively minor role in the consideration given in Europe to NATO's defense posture. So too with technical arguments about collateral damage, which began to become important in scientific circles in the United States; the prevailing notions in Europe concerning the aggregate damage likely to result from a nuclear war appeared to render specific improvements more or less irrelevant. Even for those few in Europe who were seriously interested in the newly emerging technical dimensions of the collateral damage issue, there did not appear any way to compute collateral damage in a manner which would permit adequate assessments of the likely consequences of nuclear war and thus facilitate consideration of new defense options for NATO.

While some of the old rhetoric is still heard and many of the old concepts still prevail, there are increasing indications that West European governments have become attuned to the need to reconsider the relationship among the various components, conventional and nuclear, of NATO's military force under contemporary conditions. First, as several of the SSC's European consultants on this report have emphasized, the "magic of numbers" appears to be losing its significance for many Europeans. While considerable interest still exists, for example, in the size of the American tactical nuclear arsenal in Western Europe, there is far less disposition to defend a particular level (e.g. 7,000 warheads) than was the case several years ago, especially in the United Kingdom and in the Federal Republic of Germany.¹ It is clear that reductions in the number of American tactical nuclear warheads deployed in Europe which might occur as a result of a modernization process

¹ See, e.g., Pierre Simonitoch, "No Speedy Results Seen Forthcoming from MBFR Negotiations", Frankfurter Rundschau (8 October 1975).

which is perceived to have military value will not today meet the kind of political resistance in Western Europe which it would have a few years ago.¹ There appears to be a growing consensus that preserving the theater nuclear forces of NATO in their precise present form does not guarantee an American decision to use strategic forces should the Soviets mount an attack on Western Europe. In fact, there appears to be an increasing belief in Europe that the obvious lack of a comprehensive rationale for NATO's current defense posture itself reinforces any tendencies towards decoupling that may exist in American thinking about Europe. There even appears to be an evolving conviction that it is only in the framework of a militarily viable NATO posture in Europe that the United States would seriously consider the employment of its U.S.-based strategic forces in the event of war on the continent.

Finally, interest in the military potential of new technologies is clearly increasing in Europe. FRG Defense Minister Leber went so far as to declare in a 1976 interview with Adelbert Weinstein that in the future technology will have more effect on the military balance than numbers of divisions. Paraphrasing Leber's views, Weinstein wrote:

Though military potential remains a factor in the strategy of non-war, a conventional army equipped with so-called precision arms will, in the near future, have weapons of such destructive and retaliatory capability that no adversary will have a chance any more for a military victory of the conventional type.²

¹ To be sure, some proposals which have been advanced by American commentators would meet with bitter resistance indeed; for example, Paul Warnke's suggestion--advanced before he became ACDA Director--that the number of tactical nuclear warheads in Europe should be reduced to 1,000. Such changes would obviously stir again the old fears of decoupling which developed in Europe in the wake of the Kennedy Administration's "flexible response" initiations of the early 1960s.

² Frankfurter Allgemeine Zeitung (29 May 1976). See also Kenneth W. Bacon, "European Members of NATO Strive to Build Weapons Industry to Compete with U.S. Firms," Wall Street Journal (3 November 1976).

Weinstein himself had earlier written favorably about the prospects that the new conventional precision arms could help redress the existing imbalance between the armed forces of East and West in Europe. "This would make the necessary correction in the atomic strategy of flexible response," he wrote, which "would then become only a formula." In Weinstein's view, it is possible that deterrence in the future can be achieved without the atom: "War would be ruled out without even considering the lifting of the nuclear sword."¹

Other German military analysts, of course, have been more skeptical,² and changing European views on the value of new technology and on the modernization of NATO's tactical nuclear force have not yet begun to appear to any significant extent in official government statements, defense White Papers, etc. In the Federal Republic, in fact, until recently the declared policy of the SPD government (in power there since the late 1960s) has been to downplay substantially the role of tactical nuclear weapons in European defense, reflecting both longstanding views of the Socialist party and the preferred position on military strategy advocated by Helmut Schmidt since the early 1960s.³ The 1970 German defense White Paper asserted that tactical nuclear weapons should be used by the West in the event of war in Europe "only as a last resort and even then only with constraint and on a selective

¹ Weinstein, "New Precision Arms Can Offset Eastern Advantage," Frankfurter Allgemeine Zeitung (12 April 1976). For a similar analysis, see Guenther Gillison, "U.S. Nuclear Arms Policy," F.A.Z. (18 June 1976) and, for an earlier favorable assessment of new technology, including new tactical nuclear weapons, see J.A. Graf Kielmansegg, "A German View of Western Defense," Strategic Review, II, pp. 59-66 (Summer 1974).

² See, e.g., the editorial commentary in Der Spiegel (8 and 10 March 1976).

³ See, e.g., Schmidt, Defense or Retaliation (London, 1962).

basis."¹ The 1973-74 White Paper, while not resorting to such self-denying language, also deemphasized NATO's nuclear capability in its analysis of the defense problems of the Alliance, stressing instead the deterrent function of NATO's tactical nuclear forces and the role of those forces in linking U.S. strategic forces to Europe.² The 1975-76 White Paper, while treating the role of nuclear weapons in NATO defense at far greater length than any FRG posture statement had done in a decade, emphasized the deterrence and linkage functions of the tactical nuclear force: Tactical nuclear weapons, the document asserts, must be utilized "as late as possible, but as early as necessary" and should be employed in a selective manner under tight political control with the objective of persuading the aggressor "that the prospects of victory are out of proportion to the risk he incurs."³

Nevertheless, in a variety of nonpublic forums and in many private discussions with American officials and analysts during the past several years, FRG government leaders and military officers have made it clear that they view with considerable interest many of the planned and proposed improvements in NATO's tactical nuclear arsenal. The possibility that deployment of new, lower collateral damage, militarily effective nuclear weapons would enhance the credibility of NATO's deterrence posture appears particularly appealing to many German leaders.⁴

¹ White Paper 1970 on the Security of the Federal Republic of Germany and on the State of the German Armed Forces, p. 46.

² White Paper 1973-74, pp. 15-16.

³ White Paper 1975-76, pp. 19-22.

⁴ The initial reaction of FRG government officials to the recent controversy over the so-called neutron bomb appears to confirm this assessment. While the left wing of the SPD, whose spokesman on this issue has been Egon Bahr, has vigorously attacked the proposed deployment of ER weapons in Europe, government spokesmen such as Helmut Schmidt, Hans-Dietrich Genscher and Georg Leber have taken a restrained and balanced position. Despite the outcry in his own party, in fact, Leber's attitude toward the deployment of ER weapons has been implicitly favorable. See, e.g., Michael Getler, "Bonn Party Chief Says U.S. Bomb a 'Perversion'", Washington Post, 18 July 1977, and "Ministers Interviewed, Others Comment on Neutron Bomb", Foreign Broadcast Information Service, Western Europe, VIII, No. 143, 26 July 1977, pp. J 1-3.

The picture in the United Kingdom is similar. While defense White Papers published in the United Kingdom over the last decade continue to reflect the traditional British preference for deterrence over defense, and emphasize the deterrence rather than the war-fighting capabilities of tactical nuclear weapons, the United Kingdom consultants who prepared input papers for this effort emphasize that awareness of and interest in the new military technologies and in the modernization of NATO's tactical nuclear force are steadily growing.¹ In recent months, articles have begun to appear in the British press and in professional journals analyzing the military potential of new weapon systems and emphasizing in particular the low collateral damage associated with such systems.² Much of the press commentary on the so-called "neutron bomb" in the United Kingdom has also pointed out that the use of ER weapons would result in substantially lower levels of civilian damage than presently-deployed systems.³ As our consultants have emphasized, however, discussion of the new systems in Great Britain until now has centered on their potential for shoring up deterrence and, in the event of war, on their possible effectiveness in quickly terminating the conflict, rather than on their potential for improving NATO military capabilities more broadly considered.

The full military value of the new nuclear weapons, however, including their potential for reducing collateral damage in the event of nuclear war in Europe, has only recently begun to be seriously

¹ Stewart Menaul, "Political Implications of U.S. Deployment of Low Yield Low Collateral Damage Tactical Nuclear Weapons," input paper prepared for this study.

² See, e.g., Stewart Menaul, "The Use of Nuclear Weapons in the Nuclear Theater," NATO's 15 Nations, pp. 30-33 (May 1975).

³ See "Press Views Carter Recommendation on Neutron Bomb Development," Foreign Broadcast Information Service, Western Europe, Vol VII, No. 135, 14 July 1977, p. Q5, and David Fairhall's commentary in The Manchester Guardian Weekly, 24 July 1977, p. 7.

considered by European analysts outside official circles. Moreover, although European thinking on the modernization of NATO's tactical nuclear force is clearly changing, only limited consideration up to now has been given to the collateral damage issue. As the recent discussion on enhanced radiation weapons in the European media clearly shows, the traditional preference for deterrence over defense which in the past has been characteristic of much of Europe's thinking on defense issues remains strong, particularly on the political left. (This is even more true of the Scandinavian nations than it is of Great Britain and West Germany.) While, as noted above, the ranking officials of the FRG have reacted with restraint to the strong attacks on deployment of ER weapons mounted by Egon Bahr and others, they have not deemed it politically prudent to seize the opportunity to defend publicly the introduction of new nuclear weapons into NATO's force structure. It, therefore, remains for this report to analyze the future prospects for development of a wider debate on the problem in Europe.

V IMPROVING EUROPEAN RECEPTIVITY TO A MODERNIZED TACTICAL NUCLEAR FORCE

As the preceding chapter has made clear, while opinion in Europe on the desirability of modernizing NATO's tactical nuclear force is changing, political restraints inhibit the development and implementation of the modernization program. Traditional images and apprehensions concerning the role of tactical nuclear weapons in European defense continue to exist, especially among the general public and on the political left; at the same time, the small size of the European national security community has inhibited the development of a balanced dialogue on the relevant issues, especially among public figures and political leaders at local, regional, and national levels.

Serious questions remain, then, concerning the feasibility of facilitating further shifts in European opinion and thus reducing political obstacles to NATO force modernization. Several considerations appear crucial to a successful effort.

A. Importance of the Context

SSC's European consultants repeatedly emphasized that the context in which the issue of nuclear force modernization is raised by the United States is and will be of fundamental importance, both with respect to expanding the number of European officials participating in the dialogue on NATO's future defense efforts and with respect to an eventual expansion of the discussion to include a broader base of European political leaders and the general public. In view of the continued influence of traditional European preferences for reliance on strategic weapons rather than on improved "lesser war" capabilities to deter and/or contain a Soviet attack, U.S. proposals for NATO force modernization will have to be

accompanied by explicit U.S. assurances that a primary purpose of nuclear force modernization is the strengthening of deterrence, and not the "decoupling" of the United States from European security. If the U.S. proposals are perceived as presaging "decoupling", in fact, nothing will persuade the Europeans that modernizing NATO's tactical nuclear force is desirable. The Europeans, as previously noted, are particularly concerned over suggestions that the strategic balance is altering significantly in favor of the USSR; such perceptions cannot help but affect their views on a broad range of defense issues.

U.S. assurances, therefore, will need to be made not merely explicit but also concrete; that is, they will need to be reflected in actual U.S. policies in and toward Europe. This suggests, in turn, that the present is no time for highly visible and/or substantial reductions in U.S. troop deployments on the continent. It suggests as well that, except to improve survivability, availability, and the like, as few changes as possible ought to be made in deployments of weapon systems, including nuclear delivery systems, which the Europeans have traditionally perceived to be essential to deterrence and to linkage; this means, in turn, that existing long-range interdiction systems should continue to be deployed in Europe, and even modernized where necessary.

B. Military Value of Nuclear Force Modernization

We believe that United States officials should continue to point out to their European counterparts that the new, lower-collateral damage militarily-effective nuclear systems will contribute positively to deterrence and defense in Europe. The SSC's European consultants believe that tactical nuclear force modernization should be explained in terms of the enhanced capabilities which it offers for tasks already endorsed by the Alliance as a whole. Specifically, we believe a modernized tactical nuclear arsenal should be presented to Europe (a) as offering, through dispersal and greater security, far less attractive a target structure to preemption-minded Soviet strategic planners than the present force; (b) as offering a far more usable set

of options against Soviet and WP forces in the field should war occur than is now the case, because weapons effects can be better tailored with the new systems to suit particular targets; and (c) as contributing to NATO's capacity to offset the chemical warfare capabilities of the WP in the European theater.

Furthermore, for those Europeans who are nervous about the very early nuclear use implications of low collateral damage nuclear systems, it must be emphasized that the new tactical nuclear posture which we advocate will only make sense in the context of an improved forward conventional defense capability. It should be explained, further, that the purpose of a modernized tactical nuclear war posture is to maximize the prospects for an early and favorable termination of the conflict. In terms of "escalation control," modernized TNW might enable NATO to consider various military options under less frantic conditions than might now be the case. Moreover, political authorities might prove more willing to authorize use of a modernized nuclear arsenal than of present systems, and the new systems should offer improved prospects for control once release is authorized. In general, it should be emphasized to the Europeans that the purpose of tactical nuclear force modernization is to deny the Soviet Union victory in the event that deterrence fails and war occurs. At the same time, American officials should make it plain to their European counterparts that they are not offering a technological panacea to NATO's defense problems; what is sought, on the contrary, is rather a capability for inflicting devastating damage on Soviet armor, artillery, and mechanized infantry--earlier, rather than later, in the course of any conflict, i.e., before disastrous conventional losses and Soviet penetrations of NATO's defense lines have occurred, rather than after.

It should be stated very explicitly, then, that the United States is not proposing (a) that any war in central Europe will necessarily be a massive nuclear war, or (b) that any nuclear war in central Europe will be confined

to that theater. The point to be stressed is simply that a modernized inventory of tactical nuclear weapons will enable NATO to implement a very sensible option between protracted conventional resistance (which many Europeans, particularly in West Germany, continue to deem unacceptable) and the unleashing of deep nuclear interdictions and massive nuclear war on the continent. The premise for modernization is that a Warsaw Pact offensive must be halted in its early stages, before massive penetrations have occurred, or, for all intents and purposes, especially from the West German perspective, the war would be lost. Tactical nuclear force modernization should not be "sold" as an alternative to improvements in NATO's conventional forces; on the contrary, it should be emphasized that there is a synergistic effect between the two modernizing tracks which can help create a dual capable NATO force.

C. The Political Value of Force Modernization

The American proposals for tactical nuclear force modernization should be explained as motivated by a determination to deny to the Soviet Union the leverage that flows from the current military imbalance in favor of the USSR, and, in the event that war occurs, the leverage that would flow from swift Soviet occupation of substantial NATO assets. Complementing the modernization moves at the military end of the spectrum, therefore, should be public declarations by U.S. and NATO-European officials to the effect that the scale and character of any nuclear war in and about Europe would be determined by Soviet actions. Under such circumstances it would be clear to the Europeans that NATO was not by any stretch of the imagination acquiring through TNW modernization merely a battlefield arsenal of tactical nuclear weapons; there would be important political advantages stemming from nuclear force modernization as well.

D. Avoiding Technological "Gimmickry"

In presenting the case for modernization in Europe, U.S. officials must make a serious effort to avoid the appearance--implicit in many

previous efforts in the past--of "technological gimmickry," i.e., of placing undue reliance on technological solutions to difficult military and political problems. The use of inflammatory terminology (the word "mini-nukes" comes immediately to mind) in particular must be avoided. Moreover, highly technical issues, such as those involved in the collateral damage question, should not be dealt with in isolation, but rather should be presented in their broader military and political context. Though Europeans, especially the general public, continue to be deeply concerned about the prospective casualties which would result from a nuclear war in Europe, in recent years they have become concerned about the more fundamental issues in NATO's defense posture as well.

E. Improving and Expanding Consultation in the Alliance

Changes must be introduced into the NATO consultation system if European acceptance of tactical nuclear force modernization is to be facilitated. As the SSC's West German consultants in particular emphasized, recent and ongoing consultation patterns within the framework of the Nuclear Planning Group have been extremely productive; the work of the NPG reflects a background of increasingly shared European-American experience which was lacking in earlier exchanges of this sort. Several cautionary remarks, however, are worth making. First, the secret nature of these discussions severely limits their impact, even within the NATO governments. Second, some military and political organizations within NATO have in the past proved to be rather resistant to changes in outlook and perspective on the part of elected political leaders. It is thus possible that any new political consensus on a more viable theater nuclear capability will not be easily translated into widely accepted military requirements and operational planning. Thirdly, precisely because of the modest scope and the incrementalist nature of the changes made up to now, ongoing NPG consultations by themselves may not be sufficient to affect force planning in necessary ways. Since key members of the Carter administration are believed to be

unenthusiastic about certain proposals for modernization of NATO's tactical nuclear force, the potential exists for a breakdown of the currently emerging NPG consensus, which in turn might generate hostile reactions in at least some West European capitals, especially Bonn. In general, then, in order to exploit fully the potential of the new nuclear and nonnuclear technologies, a vigorous and comprehensive approach to force planning is necessary even though it may cut into existing European bureaucratic sanctuaries. Without strong political leadership, no such comprehensive effort will occur, and without at least some support for the enterprise among a broader public the political will to accomplish such an effort may not develop.

Efforts must be made, therefore, to involve larger segments of the governmental bureaucracies in Europe in the discussions on nuclear weapons modernization and on the capabilities of the new systems, and to involve European political leaders in the dialogue on NATO force modernization to an even greater extent than heretofore. The building of "coalitions" among bureaucracies on both sides of the Atlantic to support the modernization effort would be helpful, as would the expansion of contacts between the defense bureaucracies and specific "publics" in the media, in the university communities, and elsewhere. Eventually attempts can be made to involve wider political audiences, especially local government officials.

For the immediate future, however, we believe that a wider public debate needs to be avoided. As the history of the "Carte Blanche", the ADM, the "mini-nuke", and even the "neutron bomb" controversies shows, the process of issue formation in public debates tends to result in a vast oversimplification of complex problems, and in the presentation to the public of highly technical issues in sensationalistic terms. If proposals for modernization of NATO's tactical nuclear force should prematurely catch the attention of wide public audiences on both sides of the Atlantic, the very options which should result from the reform effort may be foreclosed.

F. Coordination of U.S. Policies

A greater attempt must be made to provide more adequate coordination of views among U.S. military and diplomatic officials on nuclear doctrine. In the past, differences among U.S. officials have often become apparent to Europeans, raising doubts about U.S. policies and intentions. Agreement by U.S. representatives to NATO organs on one approach to the use of tactical nuclear weapons in the event of a Soviet attack, for example, has frequently been followed by public statements on the part of other U.S. officials taking quite a different position. Such incidents have occurred often enough, at least in the minds of Europeans, to constitute a pattern, which the United States ought to take steps to avoid.

VI EXECUTIVE SUMMARY

A. Statement of the Problem

In recent years, a combination of technological and policy developments has reinforced the U.S. view of the importance of theater nuclear systems for deterrence and defense in Europe. The new family of nuclear weapons--those now in development and those planned for the near term--is characterized by a potential for added military efficiency and substantially lowered levels of collateral damage through improved targeting capabilities, greater accuracy, reduced yields, and a variety of special targeting effects. Moreover, recent assessments of weapons effects as well as the development of new assessment methods have reduced some of the uncertainties associated with the use of tactical nuclear systems, and provided at least tentative answers to such questions as the extent and the effectiveness of various kinds of shielding techniques in protecting urban populations. The ongoing and proposed modernization of NATO's tactical nuclear forces should enhance both the credibility of deterrence and the capacity of the Alliance to contain a Warsaw Pact attack in Europe should deterrence fail. These views have been reflected in a variety of U.S. proposals put forward in recent years for the modernization of NATO's tactical nuclear force, and in other proposals now being considered.

U.S. policymakers, however, might be uncertain of the reaction of the European states to certain aspects of the proposed modernization program. Consultations at the official level--particularly with the Ministry of Defense in both the Federal Republic of Germany and the United Kingdom and with high officials in the armed forces of the FRG--have been encouraging. However, the potential reaction of other decision-makers in Europe, and especially of European public opinion, is less clearly understood.

For more than twenty years European opinion toward the modernization of NATO's tactical nuclear force has been rather ambivalent. On the one hand, Western European governments have generally welcomed the introduction of new delivery systems such as Pershing, Lance, and the F-16 into NATO's force structure. Some of the more important public debates on nuclear issues in Western Europe, on the other hand, have in the past developed in ways not helpful to a balanced consideration of the possible utility of new nuclear technologies in enhancing both deterrence and defense in Europe. Fears that a conflict on the continent involving nuclear weapons would result in population damage on a massive scale were widespread during the 1950's and 1960's, and continue to exist down to the present day. Soviet propaganda has been quick to capitalize on such fears. Moreover, for a variety of reasons, including economic, European strategic thinking has exhibited a clear preference for deterrence over defense. Thus, tactical nuclear weapons have generally been regarded in Europe as useful primarily for their role in deterrence and as a link between European defense and U.S. strategic forces. Proposals for improving NATO's nuclear war fighting capabilities have often been resisted, and sometimes served to reinforce longstanding European suspicions that the United States would prefer to "decouple" its strategic deterrent from the defense of Europe. Finally, European opinion, especially public opinion, does not appear to be adequately informed concerning the possibilities for reduced collateral damage and other advantages of the new nuclear systems. This lack of understanding may be an obstacle to European acceptance of any proposals for modernization of NATO's tactical nuclear systems.

Political considerations thus continue to be an important factor inhibiting NATO force modernization. In the absence of specific information concerning European attitudes on new nuclear systems and weapons employment concepts, especially those promising reduced collateral damage, uncertainties will remain concerning how the deployment of these systems will affect political cohesion within the NATO Alliance. Without such information, moreover, it will be difficult to determine how an effort to address the collateral damage issue might affect European public opinion.

Would a more widespread dissemination of information on the new systems be politically helpful in furthering plans for "population management," civil defense etc. in the event of war in Europe? Or would public discussion of such questions in Europe under current conditions evoke unwarranted fears and cause divisiveness in the Alliance? Such political considerations clearly must be taken into account in planning force modernization. It is with these questions in mind that SSC/SRI has undertaken this effort, as part of both the Center's parallel study of possible Soviet responses to NATO force modernization and its ongoing research on European perceptions and views of defense matters.

B. Nature of the Research Task

The SSC undertook the following principal tasks as part of the study effort:

- A review of available data in completed and ongoing analyses on:
 - the characteristics and capabilities of new tactical nuclear weapons systems, particularly the possibilities for reduced collateral damage inherent in the new systems
 - the use of shielding techniques for reducing collateral damage, and
 - new techniques for assessing the collateral damage likely to result from the employment of nuclear weapons.
- An assessment of attitudes in Europe toward existing tactical nuclear systems and the collateral damage levels associated with them.
- An assessment of possible attitudes in Europe toward the modernization of the tactical nuclear force, and specifically toward the reduced collateral damage levels expected as a result of weapons modernization, the use of shielding techniques, and the use of improved methods for assessing collateral damage. More specifically, an effort was made to evaluate the persistence of old attitudes and the extent to which such attitudes carry over and affect attitudes toward new nuclear weapons.

- An analysis of the political implications and hazards involved in communicating information concerning the reduced collateral damage associated with new U.S./NATO nuclear systems.

The task of analysis was complicated by several difficulties. First, a considerable variety of opinion on defense issues exists on the continent; moreover, political ideologies and positions on military matters interact, in Europe as elsewhere, in many ways: some individuals of a "liberal" political outlook assume a "soft" line on military questions, while others with similar views take a "hard" position. The same is true of "conservatives". If the state of European opinion is to be adequately assessed, therefore, a thorough canvass of opinion should be undertaken.¹

That, however, is not an easy undertaking. The defense communities in the NATO-European states are relatively small, and their interface with the public tends in the main not to involve discussion of issues of strategic substance. In addition, the defense bureaucracies of the non-American members of NATO do not generally reveal their internal debates and squabbles to the public (one reason, of course, is that several NATO nations have Official Secret Acts which are taken seriously). Thus, informed persons outside the official defense system--and therefore at liberty to air their views--tend to be few in number, and also tend to lack political leverage due to their limited access to centers of genuine influence over policy. Knowledge of complex defense issues among the public at large, moreover, is nearly nonexistent.

Finally, there is a lack of readily accessible polling data on public attitudes in Europe on nuclear issues, particularly for the past several years.

¹ In discussions with the sponsoring agency, it was decided to focus on attitudes in the FRG and the United Kingdom, where opinion can be expected to have the most significant impact on any NATO decision concerning nuclear force modernization.

The analysis, therefore, relied on several sources for data and information. Ample documentation exists, in published studies by academic and other analysts and in press reports, concerning public reaction to such past controversies in Europe as those surrounding the NATO "Carte Blanche" tactical nuclear exercise of 1955, the ADM debate of 1966, and the 1973 "Mini-nuke" debate. This documentation was examined and analyzed in an effort to trace the origin and development of Western European thinking on nuclear issues, and in order to permit an assessment of the present strength and relevance of past attitudes. A group of European analysts, most of them connected with research institutes on the continent,¹ were commissioned to prepare background papers, assessing both European attitudes and the likely evolution of such attitudes in the future. In doing so, they drew upon past studies undertaken by their own research organizations. Such polls as were available² were consulted, as well as all available official statements, government documents, speeches by government spokesmen and political figures, position papers issued by political parties, and media commentary.

C. Principal Findings

There is no doubt that past European fears concerning the consequences of a war in Europe in which nuclear weapons were utilized continue to some extent to affect attitudes on the continent toward nuclear issues. This is especially true of the general public, and of political bodies associated with the European left. To that extent

¹ These included Hans Rühle of the Konrad Adenauer Institute, Federal Republic of Germany; John Erickson of the University of Edinburgh; Colin Gray of the Hudson Institute; and S.W.B. Menaul of the Royal United Services Institute, London. General B.E. Spivy, U.S. Army (Ret), Major General Hamilton A. Twitchell, U.S. Army (Ret), and Dr. Stephen P. Gibert, consultants to the SSC, served as review critics.

² The scope of the project did not permit the SSC to conduct its own polls.

the results of earlier controversies such as that which arose over "Carte Blanche" live on, and the possibility that a public controversy with significant political implications could arise over proposals to modernize NATO's tactical nuclear force continues to exist. Given the strength of left-wing forces within the governing Labour government in Great Britain and the SPD in West Germany, both governments can be expected to deal very cautiously with nuclear issues in their public pronouncements, whatever the private views of the leadership. Should an extended and inflamed public debate arise, this might be even more true, as the recent controversy on the so-called neutron bomb suggests. (Certain FRG spokesmen such as Georg Leber and Hans-Dietrich Genscher, however, have been quite balanced in their comments on the possible deployment of ER weapons in Europe, despite the inflammatory remarks by SPD leader Egon Bahr.)

There has been a progressive decline over the past decade, however, in the hysteria which has often characterized the public debate in Europe on tactical nuclear weapons and related issues (such as collateral damage) in the past. The ADM, Weizsacker study and mini-nuke controversies have stimulated successively less public controversy, particularly in comparison with "Carte Blanche." There are strong indications, moreover, that attitudes on defense issues in general, and perhaps on tactical nuclear issues as well, are beginning to change. At the very least the general climate of opinion on military questions has altered in recent years.

First of all, perceptions of the military balance and of political-military stability which prevailed for more than a decade have begun to shift, both in the public consciousness and in the minds of European decisionmakers. The enormous increase in the military power of the USSR, and the effects of increased Soviet military power upon both the overall strategic balance and the military balance in Europe, is no longer ignored by the public on the continent to the extent that it was during the 1960s. European officials, in fact, reversing the

situation which prevailed during the middle and late fifties, have in recent years been far more skeptical about the prospects for detente and for a permanent improvement in East-West relations than have their American counterparts. During the past year indications that the Soviet Union is moving to strengthen its European-based nuclear forces through deployment in the theater of the Backfire Bomber and the SS-20 missile have generated particular alarm.

Along with these changed perceptions of the threat have come significant shifts in European views concerning the most likely way in which the Soviet threat would be actualized. Throughout most of NATO's history it has been assumed that a conflict in Europe would start as a consequence of overt Soviet aggression; many commentators assumed as well that the Soviet Union would immediately resort to disarming nuclear strikes in order to bring the war to an end decisively and quickly. Under these assumptions, even technologically improved theater nuclear capabilities were considered by many Europeans to be of but marginal importance; the aggregate damage resulting from use by both the Warsaw Pact and NATO of theater nuclear weapons was thought to rule out the possibility of a nonsuicidal defense against the expected Soviet assault. Many European strategic thinkers have begun to conclude, however, that a conflict in Europe, or conflicts which may spill over into the European theater, are increasingly likely to develop in more indirect ways. Soviet military involvements in, e.g., Yugoslavia, the Middle East, Iran, or Southern Africa, which could not be regarded as overt aggression against NATO, could conceivably develop in such a way as to involve one or more of the NATO states, and ultimately lead to conflict in Central Europe itself. In the view of a growing number of Europeans, therefore, NATO requires a wider range of military options than have heretofore existed.

By the same token, some European students of Soviet strategy now believe that the likelihood of a conventional phase in any major conflict in Europe is somewhat greater than usually believed. As John Erickson

and others have emphasized, Soviet military strategy in the event of war is likely to be governed in the last analysis by political objectives; wholesale destruction in Western Europe would not be compatible with Soviet postwar objectives. Some European observers thus believe that both a conventional phase (perhaps including the use of CBU, however) and a phase of truly limited nuclear war in any future European conflict are now possible. The latter, in turn, might be even more likely if NATO possessed the military capability to wage that sort of conflict.

There is also an important body of European opinion which is convinced that the primary purpose of Soviet military deployments in Europe is not military but political. According to this view, the primary Soviet strategic objective in Europe is to bend the political will of the Western states to Soviet purposes. From that perspective, the existing imbalance of military force on the continent in favor of the Soviet Union, and the declining credibility of NATO theater nuclear doctrine, can only enhance the achievement of Soviet objectives. By the same token, the most appropriate Western political response to Soviet strategy in Europe would be the development of a coherent and credible military doctrine for defeating the Soviet Union in the event of war. The modernization of NATO's defense doctrine and force deployments is seen by some Europeans as the most appropriate means to that end.

Finally, there is an increasing--if still limited--awareness in Europe of the possibilities inherent in new nuclear and other technologies, including an awareness of the possibility that under certain conditions a nuclear war in Europe might not lead to unrestricted collateral damage. The "magic of numbers", for example, appears to be of declining significance for many Europeans. While considerable interest still exists in the size of the American tactical nuclear arsenal in Western Europe, there is far less disposition to defend a particular level (e.g., 7,000 warheads) than was the case several years ago, especially in the United Kingdom and in the Federal Republic of Germany. It is clear that reductions in the number of American tactical

nuclear warheads deployed in Europe which might occur as a result of a modernization process which is perceived to have military value will not today meet the kind of political resistance in Western Europe which it would have a few years ago. Such European leaders as Georg Leber and such influential defense analysts as Adelbert Weinstein, Lord Chalfont and others have exhibited keen interest in the military potential of new technology, and particularly of precision-guided munitions. During the past year a number of articles have appeared in the British and German press and in professional journals analyzing the military potential of new weapons systems, and emphasizing in particular the low collateral damage associated with such systems.

The full military value of the new nuclear weapons, however, including their potential for reducing collateral damage in the event of nuclear war in Europe, has only recently begun to be seriously considered by European analysts outside official circles. Moreover, although European thinking on the modernization of NATO's tactical nuclear force is clearly changing, only limited consideration up to now has been given to the collateral damage issue. While it is possible, therefore, that a U.S. approach to Europe on nuclear force modernization which stressed the utility of the new weapons for achieving goals clearly agreed upon by the Alliance, especially deterrence and early war termination, might be well received, such an approach would have to be carefully prepared and developed. Difficult though it may be to calm European fears on this point, such an approach would have to be accompanied by specific U.S. assurances--and supporting policies--that the "decoupling" of the United States from European defense is not the ultimate motive and will not be perceived as such by the WP. If the U.S. proposals are perceived as presaging "decoupling", in fact, nothing will persuade the Europeans that modernizing NATO's tactical nuclear force is desirable.

We believe United States officials should continue to point out to their European counterparts that the new, lower-collateral damage military-effective nuclear systems will contribute positively to deterrence and

defense in Europe. Tactical nuclear force modernization should be explained in terms of the enhanced capabilities which it offers for tasks already endorsed by the Alliance as a whole. Specifically, we believe a modernized tactical nuclear arsenal should be presented to Europe (a) as offering, through dispersal and greater security, far less attractive a target structure to preemption-minded Soviet strategic planners than the present force; (b) as offering a far more usable set of options against Soviet and WP forces in the field should war occur than is now the case, because weapons effects can be better tailored with the new systems to suit particular targets; and (c) as contributing to NATO's capacity to offset the chemical warfare capabilities of the WP in the European theater. Furthermore, for those Europeans who are nervous about the very early nuclear use implications of low collateral damage nuclear systems, it must be emphasized that the new tactical nuclear posture we advocate will only make sense in the context of an improved forward conventional defense capability.

The American proposals for tactical nuclear force modernization should also be explained as motivated by a determination to deny to the Soviet Union the leverage that flows from the current military imbalance in favor of the USSR, and, in the event that war occurs, the leverage that would flow from swift Soviet occupation of substantial NATO assets.

For the present, we believe the U.S. approach to Europe on tactical nuclear force modernization should be basically confined to the European political leadership. A public debate at this stage, before government officials and political leaders are themselves prepared to deal adequately with the complex issues involved, would be premature and probably counter-productive, as the controversy over the "neutron bomb" indicates. Efforts should continue to be made, however, to expand discussions and debates within the Alliance on the technological and doctrinal issues involved in nuclear force modernization and on the possibility of reduced collateral damage. As the SSC's West German consultants in particular have emphasized, recent and ongoing consultation patterns within the framework of the Nuclear Planning Group and other forums have been extremely

productive; the work of the NPG reflects a background of increasingly shared European-American experience which was lacking in earlier exchanges of this sort. These and similar exchanges should be continued and expanded.

Finally, greater efforts should be made to coordinate the views on tactical nuclear issues held by U.S. military and diplomatic officials, in order to avoid the confusion over U.S. policies and intentions which has occurred at least occasionally in the past.

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